A UNITED STATES DEPARTMENT OF COMMERCE PUBLICATION

SOLAR-GEOPHYSICAL DATA
(prompt reports)

U. S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Environmental Data Service

NOVEMBER 1973

NUMBER 351-PART I
DATA FOR
OCTOBER 1973
SEPTEMBER 1973

U.S. DEPARTMENT OF COMMERCE
Frederick B. Dent, Secretary
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
Robert M. White. Administrator
ENVIRONMENTAL DATA SERVICE
Thomas S. Austin, Director

Solar - Geophysical Data

NO. 351 NOVEMBER 1973

Part I (Prompt Reports)

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NATIONAL GEOPHYSICAL AND SOLAR - TERRESTRIAL DATA CENTER
BOULDER, COLORADO

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To standardize referencing these reports in the open literature, the following format is recommended:

Solar-Geophysical Data, CRPL-FB 135*, pages, issue date, U.S. Department of Commerce, (Boulder, Colorado, U.S.A. 80302).

*CRPL-FB 135 through 269
IER-FB 270 through 298
299 Part I or 299 Part II to number of current issue.

SOLAR - GEOPHYSICAL DATA

No. 351

Issued in two parts

Hope I. Leighton, Editor

J. Virginia Lincoln, Director
Solar - Terrestrial Data Services Division

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For explanations of the data contained herein see "Descriptive Text" published as supplement to February 1973 "Solar-Geophysical Data" (Number 342).

ALERT PERIODS

INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

OCTOBER 1973

OCT. 1973	TIME OF ISSUE UT	ADVANCE GEOPHYSICAL ALERT	WORLDWIDE GEOPHYSICAL ALERT	
			NO.	TYPE INCLUDING FLARE ACTIVITY EXPECTED
01	0400			SOLNIL N14W58 S15E02 ERUPTIVE SIX QUIET
02	0400			SOLNIL S15W12 ERUPTIVE SEVEN QUIET
03	0400			SOLNIL FOUR QUIET
04	0400			SOLNIL S14W40 ERUPTIVE THREE QUIET
05	0400			SOLNIL S14W27 ERUPTIVE THREE QUIET
06	0400			SOLNIL S16W41 S16W67 ERUPTIVE FOUR OUIET
07	0400			SOLNIL THREE QUIET
08	0400			SOLNIL TWO QUIET
09	0400			SOLNIL THREE QUIET
10	0400			SOLNIL THREE QUIET
11	0400			SOLNIL ONE QUIET
12	0400			SOLNIL THREE QUIET
13	0400			SOLNIL NO SPOTS ON VISIBLE DISK
14	0400			SOLNIL TWO QUIET
15	0400			SOLNIL ONE QUIET
16	0400			SOLNIL TWO QUIET
17	0400			SOLNIL TWO QUIET
18	0400			SOLNIL TWO QUIET
19	0400			SOLNIL TWO QUIET
20	0400		20625	MAGALERT 20/24 NO SPOTS ON VISIBLE DISK
21	0400		21626	MAGALERT 22/24 NO SPOTS ON VISIBLE DISK
	0513	BOULDER MAGSTORM BEGINS 21/0128Z		
22	0400		22627	MAGSTORM EXISTS MINOR ONE QUIET
23	0400		23628	MAGSTORM EXISTS MINOR TWO QUIET
24	0400		24629	MAGSTORM ENDS 23/1200Z
			24630	SOLALERT S14E51 ERUPTIVE ONE QUIET
25	0400			SOLNIL S13E37 ERUPTIVE TWO QUIET
26	0400			SOLNIL N15W27 S13E24 ERUPTIVE THREE QUIET
27	0400			SOLNIL S13E13 ERUPTIVE FOUR QUIET
28	0400			SOLNIL S13W01 ERUPTIVE FOUR QUIET
29	0400			SOLNIL S13W12 ERUPTIVE FIVE QUIET
	0509	BOULDER MAGSTORM BEGINS 29/0500Z		
30	0100	KAKIOKA MAGSTORM BEGINS 29/0020Z		
	0400		30631	MAGSTORM BEGINS 28/07XX MAJOR
			30632	MAGALERT 30/31 MINOR SIX QUIET
31	0400		31633	MAGSTORM ENDS 30/09XX
			31634	MAGALERT 31/XX S13W40 ERUPTIVE SIX QUIET

RELATIVE SUNSPOT NUMBERS

ZURICH, R_Z

	1972 FINAL		1973 PROVISIONAL									
DAY	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
1	75	40	45	7	40	65	24	8	26	36	89	68
2	67	31	53	17	38	79	46	8	25	28	129	66
3	49	28	55	22	35	93	64	16	29	21	135	52
4	30	24	60	21	32	93	77	14	24	28	127	50
5	23	21	72	41	22	75	92	7	32	34	108	44
6	19	18	83	32	32	75	68	16	44	40	84	38
7	8	24	66	34	38	76	82	37	46	42	77	70
8	7	29	60	53	50	71	52	34	44	40	72	22
9	14	42	70	60	53	68	30	28	34	38	75	23
10	12	53	55	61	67	65	25	35	30	27	62	8
11	30	61	52	59	69	62	26	60	23	23	42	0
12	33	64	32	80	92	46	18	58	14	0	27	0
13	30	67	35	83	79	41	7	52	15	0	0	8
14	27	69	15	85	78	37	7	51	9	0	0	10
15	21	71	10	74	73	35	25	46	16	0	8	16
16	25	66	11	54	64	29	33	41	9	0	33	18
17	32	71	27	36	52	16	34	34	22	0	20	13
18	28	58	42	28	44	15	41	18	36	7	16	15
19	42	49	47	18	34	32	42	38	23	7	8	0
20	58	54	60	30	23	42	32	46	8	7	30	0
21	65	67	62	31	20	45	52	75	8	15	39	0
22	69	59	62	25	30	67	53	61	14	10	48	20
23	79	57	60	33	37	72	47	48	0	17	58	38
24	77	48	50	38	29	73	57	48	9	22	63	36
25	65	43	39	48	27	67	64	47	14	28	82	53
26	57	39	27	37	23	67	46	43	8	38	82	59
27	55	34	8	36	32	67	51	38	9	37	83	53
28	61	26	14	36	43	60	32	39	10	47	80	66
29	47	25	7		46	54	23	51	17	56	75	70
30	43	29	16		50	42	21	33	11	64	71	63
31		37	13		56		17		22	82		37
MEAN	41.6	45.3	42.2	42.1	45.4	57.6	41.5	37.6	20.4	25.6	60.8	33.0

1972 yearly mean = 68.9

DAILY SOLAR FLUX AT 2800 MHz
OTTAWA ARO

FLUX ADJUSTED TO 1 A.U., S_a

	1972		1973									
DAY	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
1	124.9	91.1	93.9	86.6	99.5	115.8	111.9*	85.2	90.9	78.2	103.4	98.1
2	121.8*	89.4	98.2	88.6	101.6*	118.1*	115.0*	83.1	93.1	78.1	116.3*	95.5
3	113.9	85.2	105.1*	93.1	97.8*	129.4	117.3	81.5	93.5	76.5	122.9	93.2
4	115.8	82.3	109.3*	94.1*	96.6	122.3	115.9*	81.0	94.9	77.6	121.5*	85.4
5	102.6	80.4	113.3	94.3	94.8	117.7	115.0*	82.5	97.9	76.6	121.6*	81.5*
6	93.2	77.8	115.0	95.3*	98.9	112.7*	109.7	85.1	99.4	79.9	117.8	77.3
7	85.7	87.1	112.3	98.5	92.2	110.3	103.4	85.3	99.9	81.7	109.5*	74.0
8	82.5	91.6*	103.2	100.5	98.9*	121.0	100.0	87.4	97.6*	78.8	104.1	72.1
9	82.3	94.7*	103.7	100.9	104.7*	120.5	95.1	88.9	98.6*	78.4	101.8*	71.2
10	84.7	97.2*	103.8	102.1*	105.6*	115.5	90.9*	91.0	100.5	75.1	96.0*	69.3
11	88.3	105.1*	102.8	101.2	113.4	110.3*	87.0	92.9	94.8	71.0	97.1	67.4
12	88.7	108.9	103.5	104.6*	114.5	130.4*	86.8	93.6	85.4	68.7	80.6	64.8
13	86.7	111.2*	100.9*	104.7*	118.9	99.4*	85.2	96.3	80.3	67.2	76.1	63.5
14	85.1	114.8*	96.2	105.6	114.0*	92.7*	89.3	97.7*	79.5	66.7	74.6	65.4
15	86.5	116.1*	94.6	104.7	107.1*	89.5	90.1	98.2	78.7	65.3	74.3	68.1
16	89.6	110.2	93.8	98.7	106.9	85.0	89.5	95.2	79.5	66.7	75.5	68.0
17	91.5	111.9	94.2	94.2	101.5	82.1	91.4	89.8	79.1	67.5	73.6	71.6
18	94.6	112.4	95.3	90.7	94.9	80.9	95.4	91.4	83.6	67.8	76.1	70.5
19	99.7	113.2	94.8	88.9	96.7*	82.8	99.4	99.2	81.6	67.9	77.9	69.0
20	109.4	111.4	98.3	89.4	91.0	86.4	104.7*	105.4	79.5	69.1	82.8	66.1
21	109.3*	113.4*	97.9	89.9	87.4	95.2	102.2	108.8	79.4	72.4*	85.4	72.0
22	110.9*	107.9*	98.5	89.7	90.3	105.0	103.1	109.4	77.6	72.4	89.6	76.5
23	115.3*	106.2	97.2	91.4	87.1	109.2	99.6	108.8	78.6	73.6	93.5	80.9
24	115.4*	101.1	96.9	93.6*	89.4	109.0*	104.5	106.1	81.6	76.8	95.6	87.8*
25	112.7	103.3*	95.6	97.2	90.0	109.2*	104.7	101.3	83.8	80.0	101.4	90.9
26	108.6	97.7	95.3	95.6	88.6	110.0*	101.1	100.3	85.0	82.1	104.0	90.9
27	102.3	97.6	93.4	98.2	92.0	111.6*	99.9	94.8	85.5	85.6	104.3	91.5*
28	97.5	91.9	91.7	100.9*	94.2	112.6	94.1	95.2	84.2	87.8	106.3	90.6
29	92.7	92.8*	91.4		99.0	109.5*	93.3	95.1	89.5*	90.7	104.9	89.2
30	95.1	92.0*	89.7		102.7	106.2*	90.8	94.1*	86.1	91.2	104.9*	87.7*
31		94.3	87.7		110.3		87.2		86.6	98.6		80.6
MEAN	99.7	99.7	99.0	96.3	99.4	105.8	99.1	94.2	87.2	76.5	96.1	78.4

B.I.P. = burst in progress
* adjusted for burst

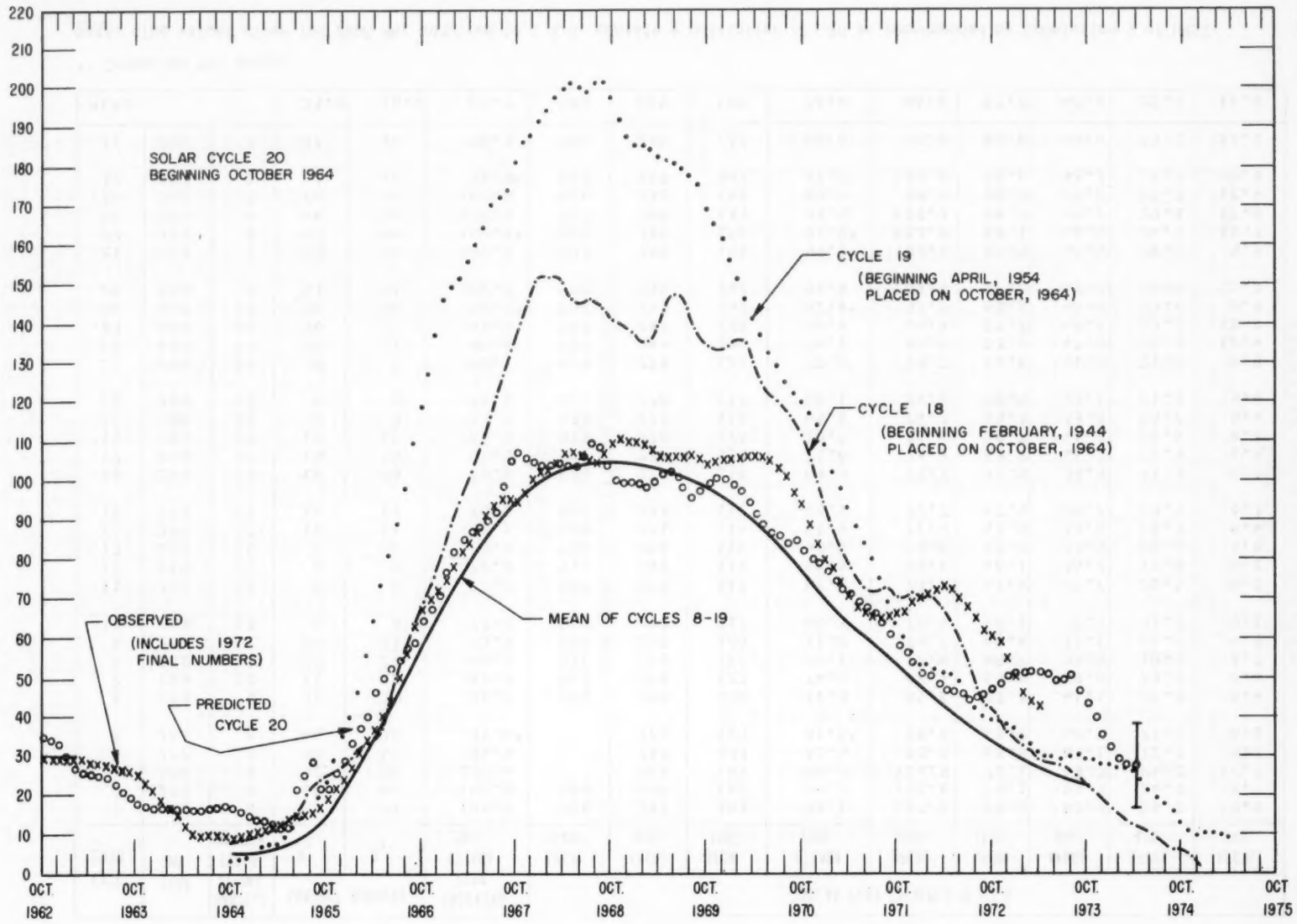
DAILY SOLAR INDICES

OCTOBER 1973

OCT. 1973	YEAR DAY	BARTELS 27-DAY CYCLE NUMBER	SUNSPOT NUMBERS		OBSERVED FLUX	SOLAR FLUX ADJUSTED TO 1 A.U.								
			R_Z	$R_{A'}$	OTTAWA 2800	AFCRL 15400	AFCRL 8800	AFCRL 4995	OTTAWA 2800	AFCRL 2695	AFCRL 1415	AFCRL 606	AFCRL 410	AFCRL 245
1	274	4	66	77	108.8	524	295	143	98.1	107.0	75.6	50.7	25.0	9.0
2	275	5	66	62	106.0	529	290	140	95.5	103.6	73.1	50.3	24.3	8.7
3	276	6	52	52	103.4		288	140	93.2	101.5	70.1	48.7	24.2	12.7
4	277	7	50	45	94.9		280	133	85.4	93.0	63.8	45.1	22.7	9.2
5	278	8	44	35	90.6*		276	129	81.5*	88.0	62.2	42.5	21.6	8.6
6	279	9	38	29	86.0	521	280	124	77.3	85.8	57.8	41.1	20.3	8.4
7	280	10	70	26	82.3	527	278	122	74.0	82.1	53.8	39.6	20.1	8.4
8	281	11	22	20	80.3	516	279	122	72.1	77.4	49.7	38.6	19.5	8.3
9	282	12	23	21	79.3	522	278	120	71.2	76.7	49.4	38.1	20.5	8.2
10	283	13	8	8	77.2	519	273	117	69.3	76.4	50.1	38.5	21.3	9.1
11	284	14	0	0	75.2	520	272	117	67.4	73.7	47.5	37.7	20.5	8.3
12	285	15	0	0	72.3	514	268	114	64.8	69.8	46.1	36.3	19.8	8.2
13	286	16	8	12	70.9	520	268	116	63.5	69.1	47.2	37.6	20.6	8.6
14	287	17	10	11	73.1	518	271	114	65.4	71.4	47.9	38.0	19.3	8.4
15	288	18	16	17	76.2	525	273	117	68.1	72.7	47.9	38.7	19.5	8.3
16	289	19	18	20	76.1	523	274	116	68.0	73.7	50.0	39.9	21.1	8.5
17	290	20	19	19	80.1	522	277	121	71.6	78.2	52.2	41.3	21.9	8.7
18	291	21	15	15	78.9	519	276	120	70.5	76.6	50.7	41.2	22.5	8.3
19	292	22	0	0	77.3	520	272	116	69.0	74.3	49.3	38.8	20.7	9.4
20	293	23	0	0	74.1	521	278	117	66.1	74.8	50.9	40.1	21.1	9.4
21	294	24	0	6	80.7	524	278	122	72.0	78.5	51.8	41.5	21.6	8.9
22	295	25	20	21	85.9	527	284	126	76.5	82.5	53.0	47.5	26.3	12.4
23	296	26	38	29	90.8	522	283	133	80.9	86.4	57.7	45.0	23.2	10.0
24	297	27	36	39	98.7*	532	293	142	87.8*	97.5	63.2	46.6	23.6	9.9
25	298	1	53	58	102.2	532	295	142	90.9	100.6	67.2	47.0	23.6	11.3
26	299	2	59	66	102.2	533	295	148	90.9	100.6	67.5	46.4	22.2	9.5
27	300	3	53	54	103.0*	536	305	152	91.5*	103.8	68.1	46.6	24.9	10.7
28	301	4	66	54	102.0	527	296	139	90.6	100.2	65.7	49.7	29.0	17.5
29	302	5	70	54	100.5	524	288	142	89.2	98.4	68.3	47.5	25.3	12.4
30	303	6	63	46	98.8*	523	289	143	87.7*	100.5	70.6	48.3	27.7	40.3
31	304	7	37	34	91.9	526	285	132	80.6	90.6	61.8	44.4	23.1	10.3
MEAN			33.0	30.0	87.7	524	282	128	78.4	86.0	57.7	43.0	22.5	10.6

* Corrected for burst.

Note: The values given for 2800 MHz adjusted to 1 A.U. contain a multiplier of .90 as recommended by Commission V of URSI.



PREDICTED AND OBSERVED SUNSPOT NUMBERS

SMOOTHED OBSERVED AND PREDICTED SUNSPOT NUMBERS

CYCLE 20

MONTH	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
1964										9.6	10.2	11.0
1965	11.7	12.0	12.5	13.6	14.6	15.0	15.5	16.4	17.4	19.7	22.3	24.5
1966	27.7	31.3	34.5	37.4	40.7	44.6	50.3	56.6	63.1	67.6	70.2	72.7
1967	75.0	78.8	82.2	84.6	87.4	91.3	94.1	95.3	95.3	95.0	97.1	100.6
1968	102.6	102.9	104.7	107.2	107.6	106.6	105.2	104.8	107.0	109.9	110.6	110.1
1969	110.0	109.6	108.0	106.4	106.2	106.1	105.8	106.4	105.4	104.1	104.6	104.9
1970	105.6	106.0	106.2	106.1	105.8	105.3	103.8	101.0	97.2	93.9	89.4	84.1
1971	80.4	77.8	74.4	70.9	68.1	66.7	65.4	64.6	65.8	66.2	66.8	69.4
1972	70.8	71.2	72.4	73.4	72.9	70.5	68.1	65.4	62.0	60.3	58.5	54.8
1973	50.3	45.8	43.6	42.3	41.0 (2)	39.4 (4)	38.0 (6)	37.3 (7)	36.3 (8)	34.8 (9)	33.1 (9)	31.4 (9)
1974	30.1 (9)	28.8 (10)	27.9 (10)	27.1 (11)	26.6 (11)	25.8 (11)	24.6 (11)	23.1 (11)	21.5 (11)	20.1 (11)	18.7 (11)	17.7 (11)
1975	16.8 (11)	15.8 (11)	15.0 (11)	14.5 (10)	13.9 (10)	13.5 (10)	13.4 (11)					

For each month, the upper figure is the observed or predicted Zürich smoothed sunspot number. The lower figure in parenthesis is the corresponding absolute value of the 90% prediction interval, an indication of the uncertainty above and below the predicted number. Observed numbers are those with no prediction intervals. The observed smoothed sunspot numbers are based on final Zürich numbers through 1972.

The predicted sunspot numbers are derived from a regression analysis based on cycles 8 through 19. Tests indicate that earlier cycles are from a different statistical population. From July 1968 - February 1970 a regression analysis based on cycles 1 through 19 was used because it had not then been proven that two populations exist.

SOLAR FLARES

PARTIAL LISTING

Solar Flares for which at least one observatory has assigned a numerical importance of "1" or greater.

OCTOBER 1973

OBSERVATORY	DATE OCT	OBSERVED UT START	OBSERVED UT END	OBSERVED UT MAX. PHASE	LOCATION APPROX. LAT.	LOCATION APPROX. MER. DIST.	LOCATION CENTRAL DISTANCE	LOCATION NOAA PLAGE REGION	LOCATION CMP DAY	DURATION MIN.	IMPORTANCE	OBS. COND.	OBS. TYPE	MEASUREMENTS TIME UT	MEASUREMENTS MEAS. AREA Sq. Deg.	MEASUREMENTS CORR. AREA Sq. Deg.	MEASUREMENTS MAX. WIDTH Hα	MEASUREMENTS MAX. INT. %	REMARKS
MITK	01	0400	0416	0409	S17	E25	.563	12542	3.0	16	1F		C	0409	3.40	4.10			E
MITK	01	0640E	0708	0653	N10	W66	.908	12532	26.3	28D	1N		C	0653	1.55				E
CRON	01	0643E	0705		N08	W65	.902		26.4	22D	SN		V		.62				
ISTA	01	0645	0705		N07	W67	.917		26.3	20	SN								D
CANR	02	1220	1230D	1224U	S15	E01	.370	12542	2.6	10D	1N		V	1224		2.80			
RAMY	02	1225E	1242D	1228	S13	E05	.347		2.9	17D	SB	3	V		.72				DE
RAMY	03	1435	1459	1439	S13	W12	.390		2.7	24	SF	4	C		.56				DE
WEND	03	1438E	1452D		S13	W09	.368	12542	2.9	14D	1F		V		3.09				
RAMY	04	1033	1210D	1042	S15	W43	.740		1.2	97D	SN	3	C		.56				UDE
RAMY	04			1050											.74				UDE
TEHR	04	1108E	1202	1114	S11	W44	.734		1.2	54D	SN	3	V		.83				F
TEHR	04			1145				12540			1N				2.15				F
CATA	04	1115	1240	1140	S15	W45	.761	12540	1.1	85	1N	3		1140	1.73	2.67		(195)	
CANR	04	1158	1200D		S14	W43	.736	12540	1.3	2D	1N		V	1200	2.06	2.80			
CANR	04	1452	1509D	1509	S14	W16	.438	12542	3.4	17D	1N		V		2.58				
CATA	04	1510E	1530	1510	S14	W28	.568		2.5	20D	SN	3		1510	.29	.35		(195)	
MANI	05	0245	0351D	0341	S14	W58	.875		30.8	66D	SN	2		0341	.62	1.15			
PALE	05	0252	0355	0257	S13	W55	.848		1.0	63	SF	2	C		1.18				F
PALE	05			0337											1.08				F
MANI	05	0255E	0319D	0259U	S16	W51	.822		1.3	24D	SF	2		0259	.52	.88			F
CRON	05	0335	0421		S13	W53	.831	12540	1.2	46	1F		V		2.17				
RAMY	05	1116	1128	1119	S16	W36	.671		2.8	12	SF	3	C		.37				DE
CATA	05	1120	1125	1120	S17	W35	.667	12542	2.8	5	1N	3		1120	2.31	3.11		(170)	
TEHR	06	0254E	0447	0254U	S16	W51	.822		2.3	113D	SN	1	V		.83				F
CRON	06	0300E	0445	0300	S14	W46	.766	12542	2.7	105D	1F		V		2.06				
TEHR	06	0312E	0457	0341U	S17	W46	.779	12542	2.7	105D	1N	3	C		2.19				U F
CRON	08	0231E	0255		S15	W64	.920	12542	3.3	24D	1N		V		1.55				
CATA	21	1135E	1200D	1145	S14	E90	1.000	12584	28.2	25D	1F	3		1145	.87			(145)	T
PALE	24	0031	0105	0034	S15	E67	.936		29.0	34	SN	3	V		.72				DE U
PALE	24	0031	0045D	0038	S15	E67	.936	12588	29.0	14D	1B	3	V		1.34				DE U
MITK	24	0033	0058	0042	S16	E65	.925	12588	28.9	25	1N		C	0042	1.13				E
CRON	24	0036	0054	0038	S15	E65	.924		28.9	18	1N		V		1.03				
PALE	24	0033	0105	0034	S16	E57	.868		28.3	32	SN	3	C		.91				DE
MITK	24	0033	0048	0039	S15	E50	.804	12584	27.8	15	1N		C	0039	1.75	2.80			
MANI	24	0034E	0105	0038	S16	E56	.860	12584	28.2	31D	1N	1		0038	1.55	2.82			
RAMY	27	1547	1730D	1606	N18	E54	.812	12590	31.7	103D	2B	4	C		4.38				U
PALE	27	1650E	1747	1655U	N18	E54	.812	12590	31.8	57D	1N	2	V		2.27				U
PALE	27	1709E	1745		N18	E53	.803		31.7	36D	1N	2	C						U
TEHR	28	0851E	0921	0855	S13	W06	.322		27.9	30D	SB	3	V		1.07				UDE
BUCA	28	0851	0920		S12	W06	.306	12584	27.9	29	1N		P	0853	2.76	2.90			E
WEND	28	0856E	0928		S14	W05	.333	12584	28.0	32D	1N		P		4.13				
CATA	30	1440	1530D	1450	S17	W34	.642		28.1	50D	SB	1		1450	.58	.75		(240)	
RAMY	30	1440E	1615D	1446	S15	W33	.617		28.1	95D	SN	4	V		.99				DE
ATHN	30	1442E	1500	1445	S16	W33	.624		28.1	18D	SN	2	V		.50				DE
CANR	30	1443	1453D	1447	S13	W34	.617		28.1	10D	SF		V		.83	.80			
CANR	30			1453	S16	W34	.635							1453	1.55	1.80			
CAPF	30	1500	1510		S13	W37	.653	12584	27.9	10	1N		P	1504	2.89	3.64			
CANR	30	1518	1519D	1519	S14	W34	.623		28.1	1D	SN		V		.62	.60			

"Remarks":
A = Eruptive prominence, base at >90°
B = Probably the end of a more important flare.
C = Invisible 10 minutes before.
D = Brilliant point.
E = Two or more brilliant points.
F = Several eruptive centers.
G = No spots visible in the neighborhood.
H = Flare with high velocity dark surge.
I = Very extensive active region.
J = Plage with flare shows marked intensity variations.
K = Several intensity maxima.
L = Filaments show effects of sudden activation.
M = White-light flare.
N = Continuous spectrum shows effects of polarization.
O = Observations have been made in the calcium II lines H or K.
P = Flare shows helium D_3 in emission.
Q = Flare shows the Balmer continuum in emission.
R = Marked asymmetry in Hα line.
S = Brightening follows disappearance of filament (same position).
T = Region active all day.
U = Close and somewhat parallel bright filaments (|| or Y shape).
V = Occurrence of an explosive phase.
W = Great increase in area after time of maximum intensity.
X = Unusually wide Hα emission.
Y = Onset of a system of loop-type prominences.
Z = Major sunspot umbra covered by flare.

Note: Catania and Capri-S express Maximum Intensities in percent of the local undisturbed chromosphere instead of percent of the local continuum. Parentheses are used to indicate this difference.

SOLAR FLARES

Date, time (UT) and coordinates of Subflares not included in preceding table.

OCTOBER 1973

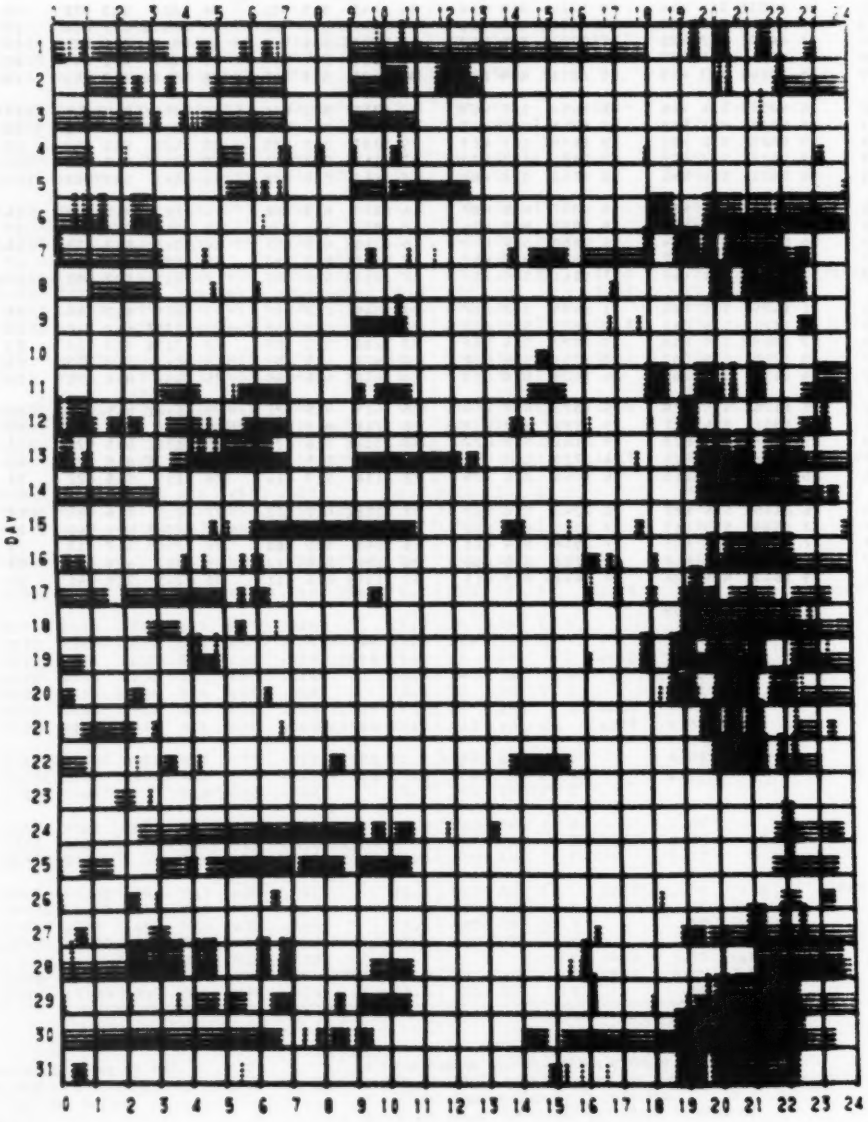
01 0950 N10 W69	01 1004 N09 W71	01 1015 S07 E10	01 1015 S07 E12
01 1423 S14 W06	01 1427E S14 W06	01 1603 S13 W08	02 0015E S13 W12
02 0040 S04 W12	02 0158E S04 W12	02 0259 N22 W18	02 0304E N22 W19
02 0405 S13 E07	02 0910E N10 W82	02 1909 N22 W28	02 1915E N21 W28
02 2016E N11 W80	03 0001E S14 W26	03 0112E N13 W83	03 0358E N13 W83
03 0710E S13 W31	03 0715 S12 W07	03 1701 S13 W14	03 2031E N18 E09
03 2032E N17 E08	04 0218E N17 W02	04 0809 S15 W22	04 0809 S14 W21
04 0814 S14 W40	04 0820E S13 W20	04 0820E S11 W44	04 1033E S11 W44
04 1324 S16 W19	04 1445 S15 W21	04 1628 S13 W22	04 1847 S13 W46
04 1903 S13 W23	04 2227E S16 W23	04 2228E S14 W26	04 2347E S13 W31
05 0224 S17 W27	05 0226 S14 W27	05 0615E S17 W28	05 0707E S16 W52
05 0710E S16 W52	05 0945 S16 W31	05 1350E S16 W55	05 1355 S16 W38
05 1356 S15 W39	05 1920 S14 W44	05 1920 S14 W44	05 1935 S12 W57
05 1936 S15 W40	05 1938 S12 W60	05 2004E S13 W59	05 2211E N05 E36
06 0136 S15 W45	06 0140E S13 W43	06 1046E S14 W67	06 1052 S17 W69
06 1055E S16 W68	06 1600 S17 W53	07 0715 N20 W80	07 2058E S16 W67
07 2323E N15 W63	07 2325E N14 W63	08 1210 N12 W70	08 1211 N13 W72
08 1215 N14 W74	08 1218E N13 W72	08 1528 S10 W55	09 0720E S09 W60
09 0820E S12 W61	09 1005E S10 W63	09 1303 S10 W65	09 1426 S10 W66
09 1431 S09 W16	09 1658 S08 W69	09 2017 S07 W70	09 2104 S07 W70
09 2142 S07 W71	09 2222E S08 W72	09 2332E S07 W73	10 0551 S10 W61
10 0621 S10 W61	10 0718 S10 W61	10 1640 S10 W88	10 1647 S07 W85
10 1648 S08 W88	10 1845E S06 W85	10 2215E S06 W88	13 0037 N12 W07
14 0855 N13 W28	14 1102 N13 W29	14 1502 N12 W32	14 1503 N14 W32
14 1504E N15 W32	14 1900 N15 W34	14 1900 N14 W34	14 2319E S10 W36
15 1330 N13 W42	15 1609E S04 W32	16 0008 N15 W54	16 0050E N14 W50
16 0308E N15 W55	16 0316 S13 E25	16 1733E N13 W57	16 1733E N13 W57
16 1824E N15 W57	16 1919E N13 W57	17 0252E N12 W63	17 0538E N11 W65
17 0637E N10 W68	17 0640 N11 W68	17 0731E N11 W67	17 1011E S06 W50
17 1014E S05 W53	17 1015 S02 W52	17 1351E N12 W70	18 0106 N11 W78
21 1425E S12 E90	21 1439 S12 E87	21 1445 S12 E22	21 1656 S12 E86
21 2334E S15 E82	22 1121 S19 E88	22 1121E S16 E85	22 1635 S12 E68
22 1658 S12 E68	22 1735E S12 E67	23 0941 S08 E61	23 1010 S16 E58
23 1020E S15 E58	23 1022 S14 E62	23 1208 S11 E55	23 1217E S10 E63
23 1430 S12 E56	23 1534 S16 E62	23 1725 S15 E57	23 1751E S15 E52
23 1929 S15 E52	23 2043 S15 E53	23 2045E S15 E51	23 2136 S16 E51
24 0118 S15 E86	24 1628 N18 E90	24 1630E N16 E90	25 0950 N16 E80
25 1056 N16 E79	25 1123 S15 E30	25 1124 S15 E29	25 1328E N07 W54
25 1425 N15 W21	25 1542E N15 W22	25 1551 N15 W20	25 1552E S17 E27
25 1552 S14 E27	25 1559E N17 W19	25 1717 N15 W21	25 1720 N15 W23
25 1721E N15 W22	25 2037E N15 W25	25 2126E S15 E28	25 2141E S12 E27
25 2336E S15 E23	26 0016 N18 E71	26 0217 S16 E22	26 0726 S16 E18
26 0728 S17 E18	26 0730 S15 E17	26 0823E N15 E70	26 0840 S17 E18
26 1735 S14 E16	26 1739 S16 E15	26 1754 S16 E15	26 2116 S13 E14
26 2119 S15 E27	26 2132E S13 E14	26 2135E S12 E26	26 2145E S16 E22
26 2240 S16 E12	27 0016E N17 E73	27 0215 S16 E23	27 0503 S15 E07
27 0503 S15 E07	27 0504E S15 E10	27 0550 N23 E60	27 0632 N23 E60
27 0735E N21 E60	27 0740E S15 E08	27 0800 S15 E06	27 1354 S13 E05
27 2006E S14 E01	28 1048 S16 W08	28 1758E S17 W13	28 1800 S16 W11
28 1831E N14 E37	29 0445 S16 W17	29 0728 S16 W16	29 1550 N16 E23
29 1820 N20 E26	29 1827E N20 E27	29 1836 N16 E21	29 1840E N15 E24
30 0441E N13 E15	30 1110E N16 E11	30 2345 S15 W41	30 2345E S13 W38
31 0307E N20 E09	31 0347E N22 E09		

INTERVALS OF NO FLARE PATROL OBSERVATION

FOR PRECEDING SOLAR FLARE TABLE

OCTOBER 1973

HOUR-UT



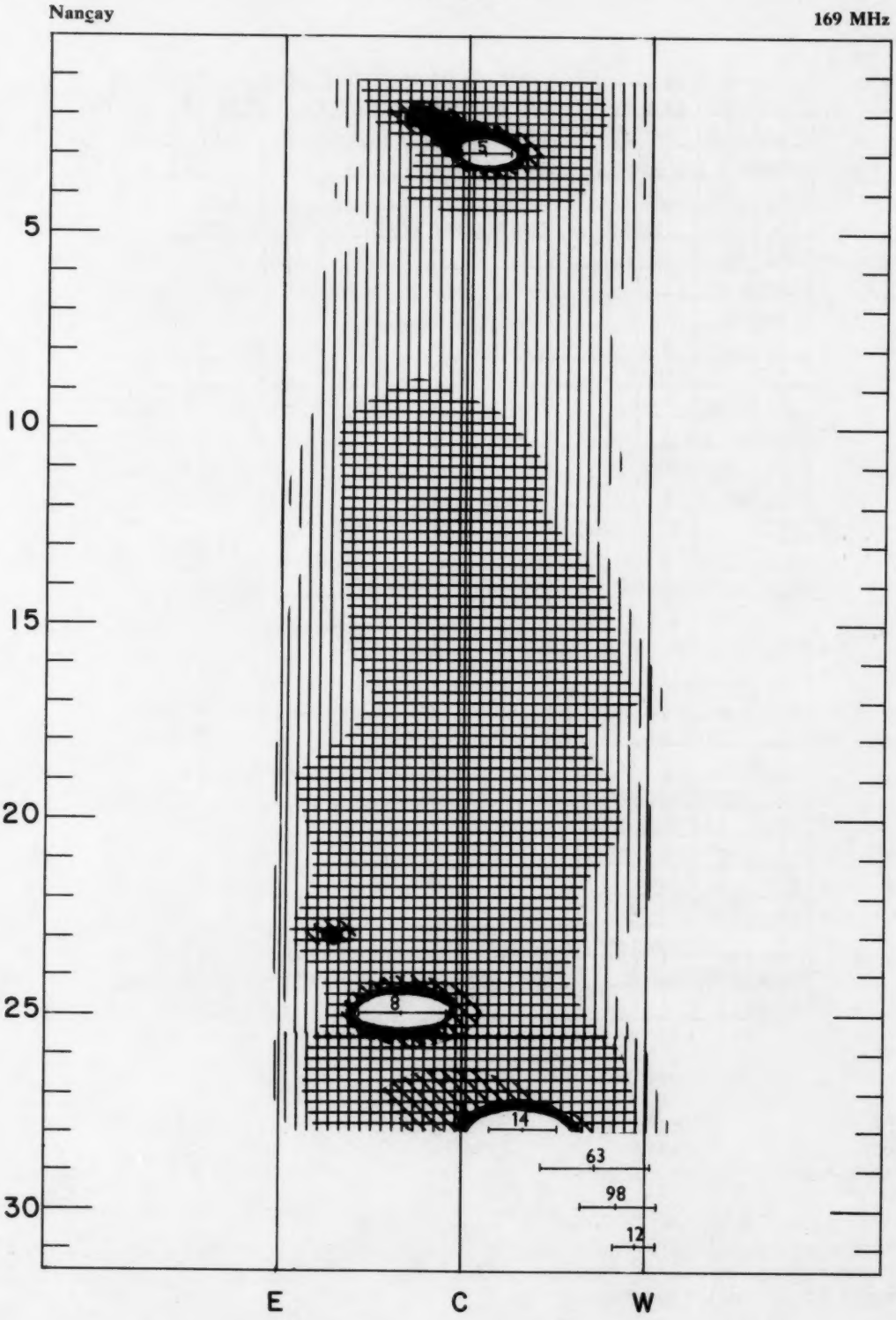
Observatories included in total patrol:

Athenes	Carnarvon	Herstmonceux	McMath-Hulbert	Ramey
Bucharest	Catania	Istanboul	Mitaka	Teheran
Capri-F (German)	Gran Canaria	Manila	Palehua	Upice
				Wendelstein

Time of no flare patrol are shown by the shaded area for each day divided into times of no cinematographic patrol (bottom half of day) and times of neither visual nor cinematographic patrol (top half of day).

SOLAR RADIO EMISSION
INTERFEROMETRIC OBSERVATION

OCTOBER 1973

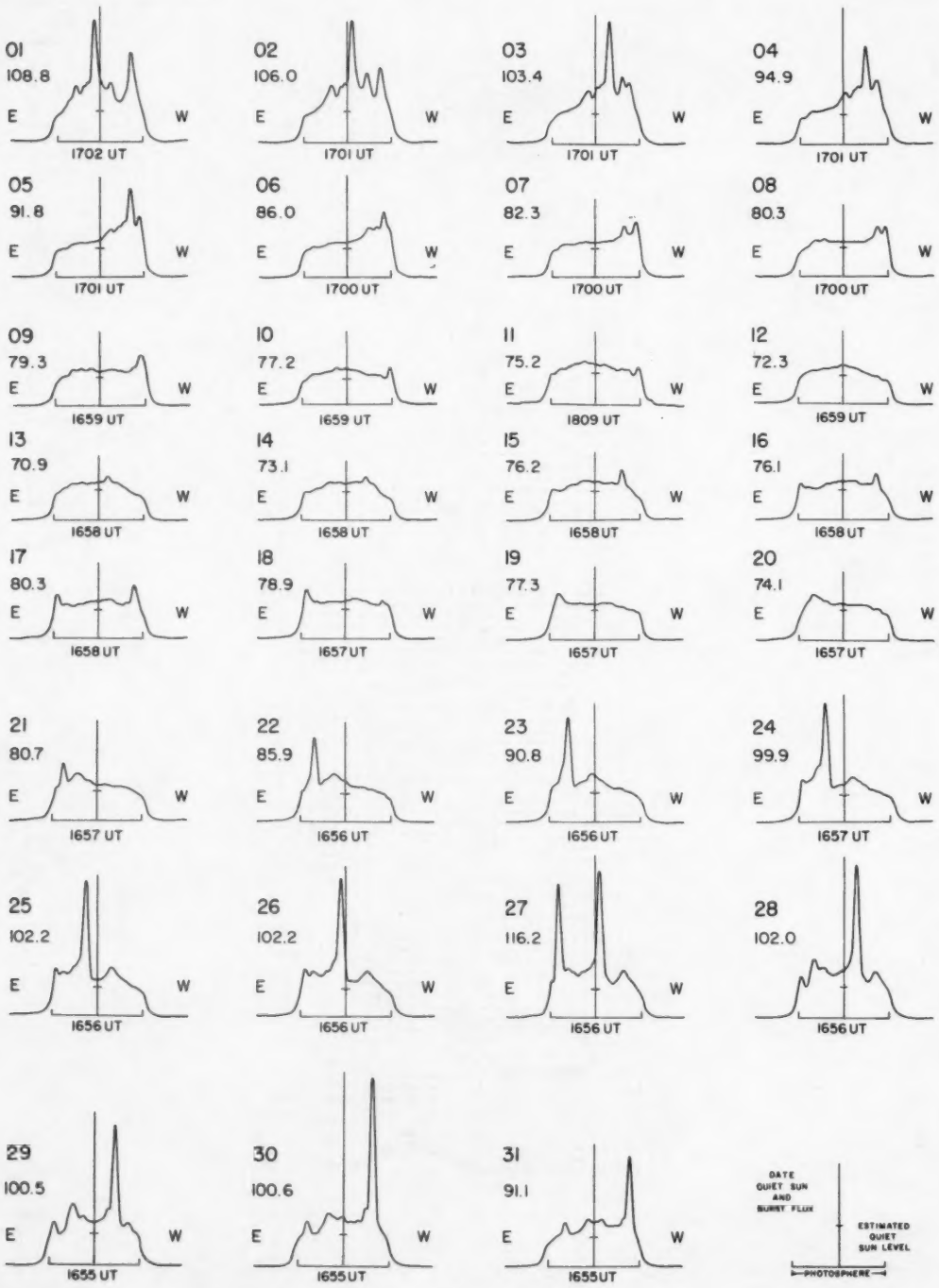


EAST-WEST SOLAR SCANS

October 1973

ALGONQUIN RADIO OBSERVATORY
CANADA

10.7 cm
Fan-Beam with 1.5 minutes of arc
E - W Resolution

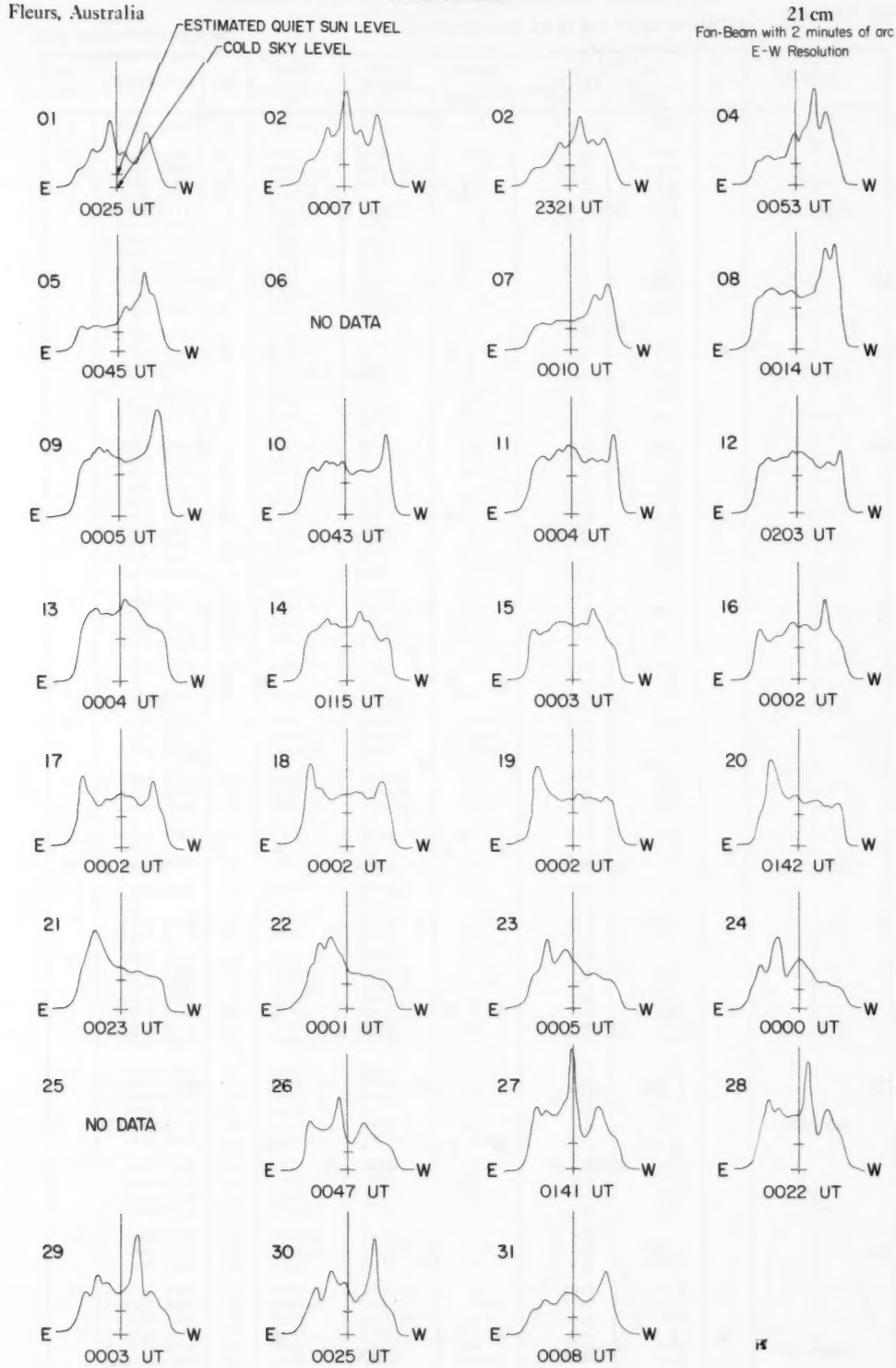


EAST-WEST SOLAR SCANS

OCTOBER 1973

Fleurs, Australia

21 cm
Fan-Beam with 2 minutes of arc
E-W Resolution



16
Oct 73

EAST-WEST SOLAR SCANS

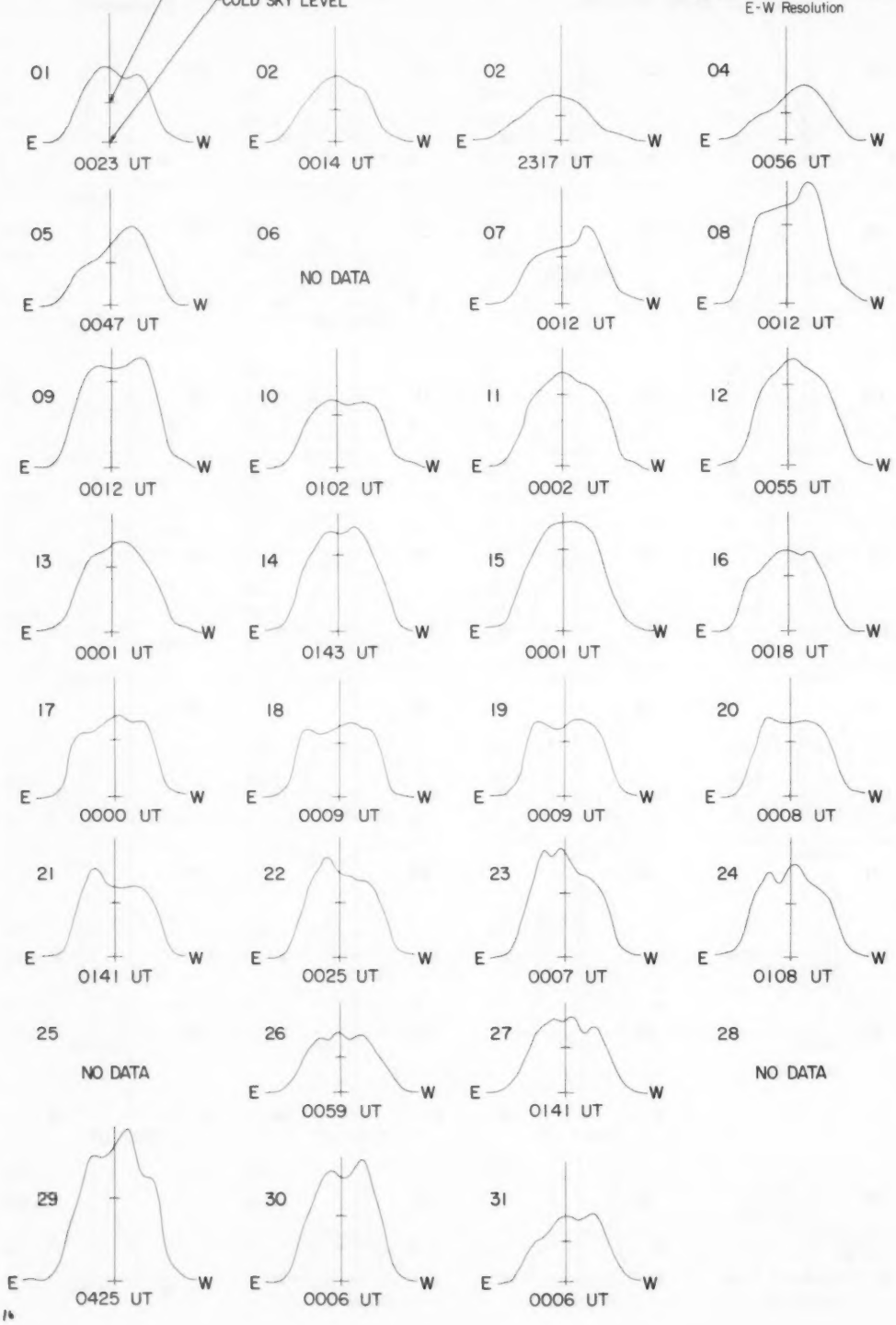
OCTOBER 1973

Fleurs, Australia

ESTIMATED QUIET SUN LEVEL

COLD SKY LEVEL

43 cm
Fan-Beam with 4 minutes of arc
E-W Resolution



14

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

OCTOBER 1973

OCT. 1973	FREQUENCY STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	REMARKS
1	8800 SGMR	3	1305.9	1306.1	.8	24.6	7.4		
2	2695 MANI	40	0259.7	0300.1	2.3	26.4	9.3		
	8800 SGMR	3	1220.2	1221.1	3.3	13.1	3.9		
	2695 SGMR	3	1219.4	1221.3	7.3	23.1	6.9		
	2800 OTTA	27	1219.5		225	2.0	1.7		
	2800 OTTA	3	1219.5	1221	5.5	27.0	9.0		
	2695 CANR	8	1220	1222	9.5	18.0	6.0		
	2800 OTTA	29	1225	1225	33	4.0	2.0		
	2800 OTTA	20	1425	1455	65	1.2	0.6		
	2800 OTTA	20	1913	1917	20	1.4	0.7		
	2800 OTTA	21	2123	2126.5	12	1.0	0.5		
	2695 CRON	45	2357.5	2128.5	.5	1.0	0.5		
				2359.5	4.5	21.0	4.0		
3	2800 OTTA	27	1300		270	3.0	2.7		
	2695 BOUL	3	1414.5	1415.5	1.5	4.0	1.0		
	2695 BOUL	3	1420	1421	2	3.0	1.0		
	2800 OTTA	1	1512.5	1514	4	1.6	0.8		
	2695 BOUL	3	1513.5	1515	4.5	3.0	1.0		
	2800 OTTA	20	1702	1704	10	1.4	0.7		
	2800 OTTA	20	2025	2040	65	1.4	0.7		
4	2695 CRON	3	0808.5	0811	6.5	3.0	1.0		
	2800 OTTA	26	1225	1225	35	2.6	1.3		
	2800 OTTA	21	1500	1512	92	3.8	1.3		
	2800 OTTA	8	1515	1515.2	.5	1.2	0.6		
	2800 OTTA	20	1533	1537	10	2.6	1.3		
	2695 PENT	25	2210	2223	13	1.6	0.8		
	2695 PENT	2	2221	2222	2	1.0	0.5		
	2695 PENT	20	2230	2235	10	1.2	0.6		
	2695 PENT	20	2342	2353	40	3.2	1.6		
	2695 CRON	3	2347	2350	6.5	4.0	1.0		
5	2800 OTTA	20	1305	1345	70	1.4	0.9		
	2800 OTTA	20	1420	1446	60	1.8	0.9		
	2800 OTTA	20	1550	1700	100	1.4	0.7		
	2800 OTTA	20	1910	1940	130	2.2	1.1		
7	2800 OTTA	22	2038	2100	60	1.6	0.9		
11	2695 PENT	20	2145	2227	120	2.0	1.0		
12	2695 BOUL	3	2323	2324	2.5	4.0	1.0		
	2695 BOUL	3	2329.5	2330.5	3.5	4.0	1.0		
	2695 BOUL	3	2336.5	2338	4.5	5.0	2.0		
14	2800 OTTA	2	1500	1502.9	6	5.8	2.0		
	2695 BOUL	3	1501	1503.5	5	7.0	2.0		
	2695 CANR	3	1501.5	1503.5	5.5	6.0	2.0		
16	2695 PENT	24	1955	2230	155	2.4	1.2		
18	2695 CANR	3	1810.5	1813	4	15.0	5.0		
19	2695 CANR	3	0737	0739.5	4	4.0	1.0		
22	2695 CANR	3	1743	1744.5	3.5	6.0	2.0		
	2800 OTTA	24	2020	2040	20	1.4	0.7		
23	2800 OTTA	23	1515	1535	70	1.4	0.7		
	8800 SGMR	3	1534.4	1534.6	.6	29.5	8.9		
	2695 SGMR	1	1534.4	1534.6	1.7	8.6	2.6		
	2800 OTTA	1	1534	1534.5	1	9.0	3.0		
	2695 BOUL	8	1534.5	1535	1	12.0	5.0		
	2800 OTTA	24	2045	2210	85	2.2	1.1		
	2695 CRON	8	2309.5	2310	2	12.0	4.0		
24	2695 CRON	3	0036	0037	2	6.0	2.0		
	2695 MANI	2	0037.1	0038.5	2	7.1	1.6		
	2800 OTTA	20	1345	1427	90	1.6	0.8		
	2800 OTTA	27	1515		155	2.6	1.7		
	2800 OTTA	24	1815	1905	50	2.2	1.1		
	2695 PENT	40	2006.4	2007.1	1.6	6.0			
25	2695 CANR	8	1125	1126	2.5	17.0	6.0		
	2800 OTTA	24	1350	1505	75	2.6	1.3		
	2800 OTTA	21	1552	1617	60	1.6	0.8		
	2800 OTTA	1	1552.2	1552.7	1	1.4	0.7		
26	2800 OTTA	8	1617.2	1617.2		4.2			
	2800 OTTA	8	2050.8	2050.8	.5	2.0	0.9		
	2695 PENT	24	2135	2152	17	2.8	1.2		
27	8800 MANI	4	0503.3	0503.8	3	66.0	14.6		
	2695 MANI	4	0503.3	0503.7	1.4	24.3	5.7		
	2695 CRON	8	0503	0503.5	1.5	21.0	8.0		
	2800 OTTA	21	1533	1550	450 D	6.2			
	2695 BOUL	45	1540	1601.5	142	55.0	12.0		
	2695 CANR	45	1540.5	1602	118.5	69.0	16.0		

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS
OCTOBER 1973

OCT. 1973	FREQUENCY STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} MEAN	INT	REMARKS
	8800 SGMR	22	1549	1602.3	62.8	20.2	12.1		
	2695 SGMR	46	1544.5	1601.5	96	62.0	12.7		
	2695 SGMR	46		1617.1		63.6			
	2800 OTTA	46	1554	1601.5	36	55.0	24.5		
	2800 OTTA		1554	1601.5	13	55.0			
	2800 OTTA		1607	1618.5	23	34.0			
	2800 OTTA	29	1630	1630	55	10.6	5.2		
	2695 BOUL	3	1814.5	1817.5	8.5	4.0	1.0		
28	2695 CANR	45	0949	0949.5	14.5	37.0	12.0		
	2800 OTTA	20	1915	1917	15	.8	0.4		
	2695 CRON	45	2347	2348	5.5	29.0	9.0		
29	2695 CRON	8	2339.5	2340	2	7.0	3.0		
30	8800 MANI	1	0117.1	0118.6	4.1	9.0	3.0		
	2695 MANI	4	0117.9	0118.6	1.6	11.6	3.9		
	2695 CRON	8	0126.5	0127.5	2	12.0	4.0		
	2800 OTTA	21	1420	1530	295	6.8	4.0		
	2695 SGMR	22	1436.9	1539.8	259.1	7.6	4.6		
	2800 OTTA	40	1440		65	2.8			
	2695 CANR	3	1445	1447.5	5.5	3.0	1.0		
	2695 CANR	40	1518	1540	27	6.0	2.0		
	2695 BOUL	40	1518	1540	26	6.0	2.0		
	2800 OTTA	26	1915	1915	150	4.2	2.1		
31	2695 CANR	3	0745	0745.5	1.5	5.0	2.0		
	2695 CANR	3	0753.5	0754	2.5	3.0	1.0		
	2695 CANR	1	1301	1301.5	5	2.0	1.0		
	2800 OTTA	20	1437	1439	15	1.8	0.9		
	2695 CANR	3	1438	1440	4.5	4.0	1.0		
	2800 OTTA	21	1948	2010	122	5.4	2.6		
	2800 OTTA	1	1958	2003	8.2	4.8	2.4		
	2695 BOUL	3	2000	2003	6.5	6.0	2.0		

Observatories:

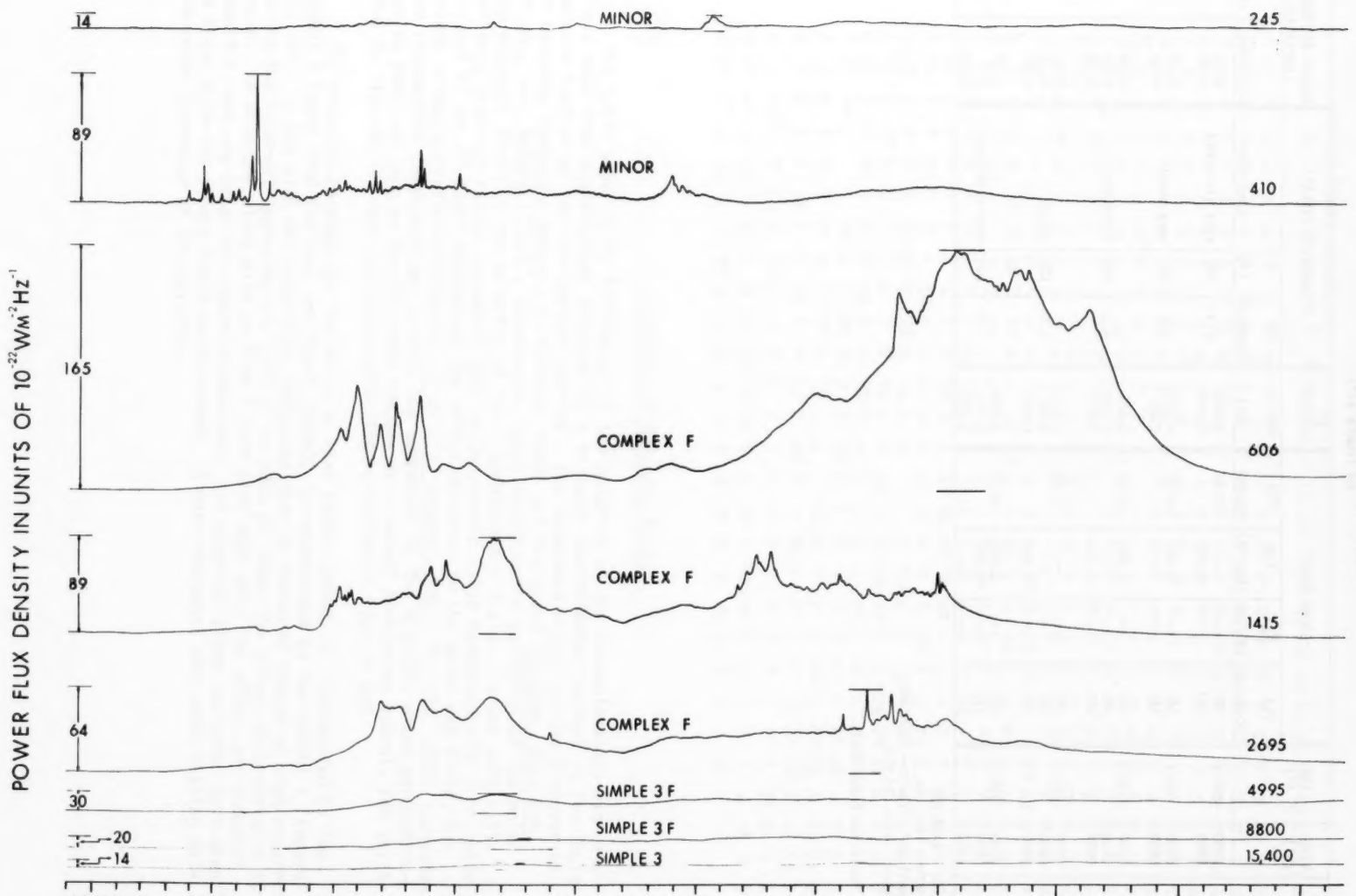
BOUL = Boulder
CANR = Canary Islands
CRON = Carnarvon
OTTA = Ottawa ARO
MANI = Manila
PENT = Penticton
SGMR = Sagamore Hill

Explanation of Type Code:

1 Simple 1	6 Minor	22 Simple 3F	27 Rise and Fall	32 Absorption	44 Noise storm in Progress
2 Simple 1F	7 Minor +	23 Simple 3AF	28 Precursor	40 Fluctuation	45 Complex
3 Simple 2	8 Spike	24 Rise	29 Post Burst Increase	41 Group of Bursts	46 Complex F
4 Simple 2F	20 Simple 3	25 Rise A	30 Post Burst Increase A	42 Series of Bursts	47 Great Burst
5 Simple	21 Simple 3A	26 Fall	31 Post Burst Decrease	43 Onset of Noise Storm	48 Major
					49 Major +

SELECTED SOLAR NOISE BURST

27 OCTOBER 1973



RADIO BURST OBSERVED 27 OCTOBER, 1973 - SAGAMORE HILL RADIO OBSERVATORY, HAMILTON MASSACHUSETTS

19 Oct 73

PIONEER IX

OCTOBER 1973

DATE	TIME (UT)	ESP (°)	SOLAR WIND[1]				IP E-FIELD[2]	IP MAGNETIC FIELD[3]			COSMIC RAY PROTONS[4] (particles/sec)	
Oct. 1973			U_{H^+} (km/sec)	N_{H^+} (H^+/cc)	T_{H^+} ($\times 10^6$°K)	TAU (Days)	400 Hz (mv)	/B/ (Gamma)	φ (°)	Condition	>13.9 Mev	>40 Mev
3	0100	-040.1	330	---	---	-2.95	0.148	2.8	190	very disturbed	6.49	1.31
	0500		319	---	0.047		0.148				6.62	1.04
10	0200	-39.7	347	---	0.18	-2.93	0.155	3.5	330	very quiet	6.04	1.18
	0600		341	---	---		0.22				6.02	1.46
17	0100	-039.4	539	---	0.081	-2.91	0.163	4.2	318	disturbed	6.39	1.21
	0500		499	---	---		0.133				6.23	1.27
	0900		505	---	0.12		0.171				6.36	1.22
24	0200	-039.0	336	---	---	-2.86	0.171	6.4	126	quiet	6.5	1.24
	0600		367	---	---		0.22				6.38	1.23
	1000		371	---	0.105		0.232				6.42	1.30
31	0200	-038.7	320	---	0.029	-2.79	0.155	6.0	300	very disturbed	6.57	1.27
	0600		318	---	0.046		0.212				6.7	1.32
	1000		331	---	---		0.295				6.86	1.39

[1] Wolfe - NASA/ARC
[2] Scarfe - TRW, Inc.
[3] Sonett and Colburn - NASA/ARC
[4] Webber - Univ. of N.H.

ESP = Earth-Sun Probe Angle.

INFERRED IP MAGNETIC FIELD

ROTATION NO.		DAY IN SOLAR ROTATION 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
	D 20	T	A	A	A	A	A	A	A	T	T	T	T	-	T	T	T	T	T	T	T	T	T	T	-	T	T	T
1972	J 26	T	A	A	A	A	T	T*	T	T	T	T	T	T	T	T	T	T	A	A	A	T	T	T	T	T	TA	A
1895	F 12	A	T	A	A	A	A	T	T	T	TA	A	-	A	T	T	T	T	TA	A	T	T	T	T	T	TA	A	A
	M 10	A	A	A	A	A	A	A	A	A	A	A	T	A	T	T	T	T	A	A	T	T	T	T	T	T	A	A
	A 6	A	T	T	A	T	T	T	T	T	T	T	T	T	A	T	T	A	A	A	A	A	-	A	A	T	TA	A
	M 3	A	A	A	-	A	T	T	T	T	T	T	T	T	A	A	T	A	A	A	A	A	T	A	T	T	A	T
	M 30	A	A	*	A	A*	T	T	A	T	T	T	A	-	-	-	-	-	T	-	A	A	T	T	T	T	TA	A
1900	J 26	A	A	A	A	A	A	A	A	AT	T	T	T	TA	A	T	T	A	A	A*	A*	A	T*	T	T	T	T	T	TA
	J 23	A*	A*	A*	A	A	A	A	A	A*	T	T	A	A	A	-	A	T	T	T	T	A	T	T	T	T	A	-
	A 19	-	-	A	A	A	A	A	A	T	A	A	A	A	T	A	A	A	T	T	T	T	A	A	T	A	A	A	-
	S 15	A	T*	A	A	A	A	A	A	T	A	A	A	-	-	-	-	-	-	T	T	T	T	T	-	T	A	A	A	T
	O 12	T	-	-	A*	T	T	T	A	A	T	A	A	A	A	A	A	AT	T	AT	T*	T	-	A*	AT	T	T	*	A
1905	N 8	A	A	A	AT	AT	AT	T	T*	A	A	A*	AT	A	A	AT	T	T	TA	T	T	T	A	A	A	A	AT	T
	D 5	T	T	AT	-	-	T	T	AT	-	T	T	A	-	-	T	TA	A	T	T	T	A*	T	T	T	T	AT	T
1973	J 1	T	T	T	T	T	T	T	-	AT	T	-	-	TA	A	A	A	A	A	T	-	-	T	-	T	-	T	T
	J 28	T	A	T	T	T	T	T	T	A	TA	A	A	AT	TA	AT	TA	AT	-	A	A	T	T	T	T	T	T	T
	F 24	T	T	TA	T	T	-	TA	A	A	T	A	A	A	AT	A	A	A	TA	A	A	TA	A	A	T	T	T	T
1910	M 23	T	T	T	A	T	T	T	TA	A	TA	A	A	-	A	A	TA	A	A	AT	T-	-	T	T	T	T	T*	T*
	A 19	T	AT	T-	T	T	T	A	T	T	TA	A	A	A*	A	AT	TA	A*	T	A	TA	T*	AT	A	T	A	T	A*
	M 16	T	T	T	T	T	T	TA	T	A	AT	T	A	A	A	A	A	A*	A	A	A	A	T*	-A	A	-	T	T
	J 12	T*	T	-	T	T*	A	T	T*	T*	T	T	AT	A	A	T	-	T	A	A	A	A*	AT	-	T	A	A	T
	J 9	T	T	A	T	T	A	T*	T*	A	AT	-	A	T	TA	T	T	T	A	A*	A	A*	TA	A	TA	T*	T*	T
1915	A 5	T	A	A	AT	A	T	T*	T	*	AT	T	AT	T	A	TA	T	T	A	A	AT	A*	AT	A	A	TA	A*	A
	S 1	TA*	T	T	AT	A	TA*	A	*	T	T	T	A	A	A	T	T	T	A	T	A	A*	A	T*	A	A	A*	A
	S 28	A*	A	AT	T	A	A	A	A	A*	T*	AT	T	T	T*	T	T*	T*	T	A	T	A*	A	A	T	A	T	T
	O 25	T	T	TA	A	T	T*	A	A	A	A	A	T	T	T	T	T	TA	T	T	*	A	A					

Inferred IP Magnetic Field

The table shows daily inferences of the polarity of the interplanetary magnetic field made from magnetograms produced by a tri-axis magnetometer located at the Thule Geopole Station of the Air Weather Service. The inference relies on the discoveries of Mansurov (Geomagn. Aeron., 9, 622-623, 1969) and Svalgaard (Geophys. Pap. R-6, 11 pp., Dan. Meterol. Inst., Copenhagen, 1968) relating the variation of the polar cap magnetic field to the polarity of the interplanetary field. It was originally believed that the radial component (BXM in Geocentric Solar Magnetospheric coordinate system) of the IP field determined the effect observed in the polar cap field, but recent evidence (Friis-Christensen, et al., J. Geophys. Res., 77, 371, 1972) indicates the responsible component may be BYM, the component in the ecliptic plane perpendicular to BXM. As long as the IP field remains in a normal Archimedes spiral, the variation in sign of BYM maps one-to-one with the variation of sign of BXM.

The notation adapted for the table is that BXM>0 (BYM<0) is represented by the symbol A (away from the sun) and BXM<0 (BYM>0) is represented by the symbol T (toward the sun). A day with two polarities indicates that an inferred change of sign occurred during the interval approximately 1200 UT to 2000 UT, when the effect is observable at Thule. An asterisk along with an A or T indicates days when the effect was somewhat doubtful, but one polarity seemed predominant. An asterisk alone indicates days when no clear polarity effect could be discerned. A dash indicates days when missing data prevented inference of the polarity.

SGD 351 Part I (Prompt)

SEPTEMBER 1973 DATA

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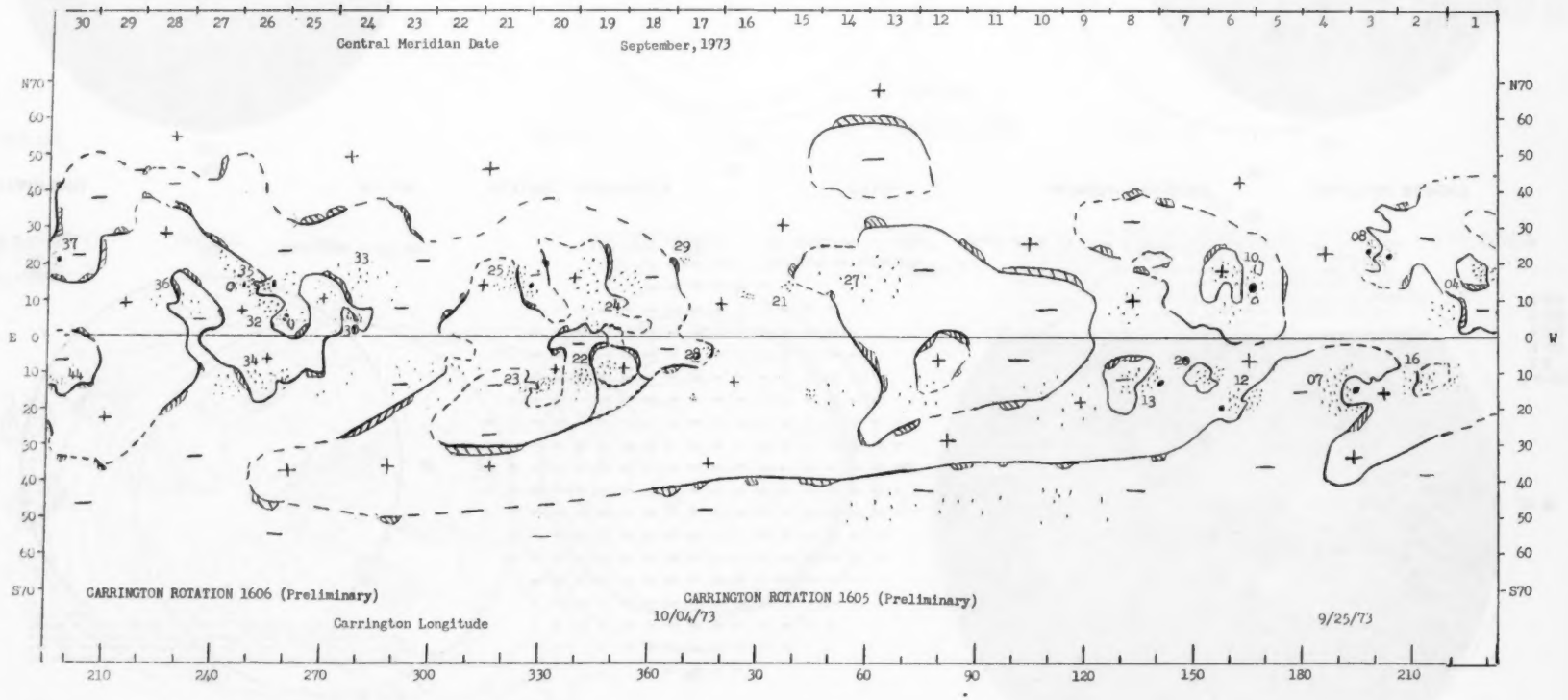
Errata: See page 91

For explanations of the data contained herein see "Descriptive Text" published as supplement to February 1973 "Solar-Geophysical Data" (Number 342).

Hα SYNOPTIC CHARTS

SEPTEMBER 1973



25 Sep 73

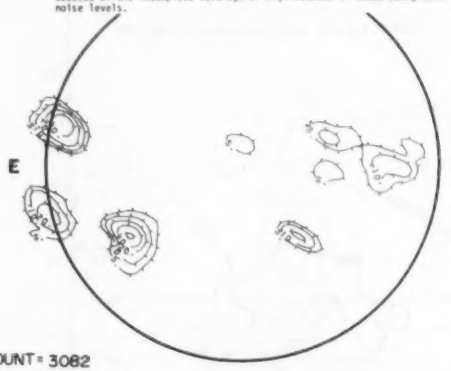
SEPTEMBER 1, 1973 (P = 21.07, B_o = 7.20, L_o = 232.60)

NASA GSFC
OSO-7

X-RAY
8-16A

Np

The tape recorder on OSO-7 failed in mid-May. Some of EUV and X-ray maps are incomplete because the period of direct contact with a tracking station is of short duration. The total counts given may also be low because of the incomplete coverage or high because of added background noise levels.



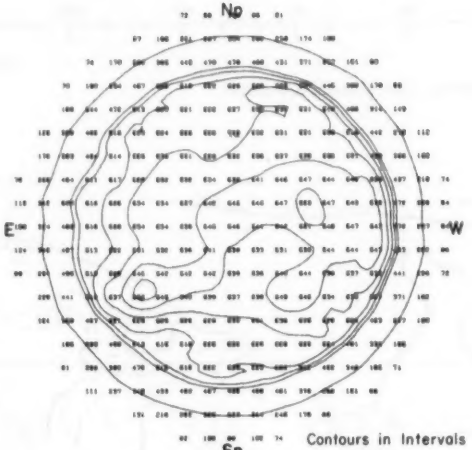
COUNT = 3082
ROLL = 32.2°
P-TH = -0.86

0502 UT

Counts per 0.125 sec.

PROSPECT HILL
AFCRL

8.6 mm



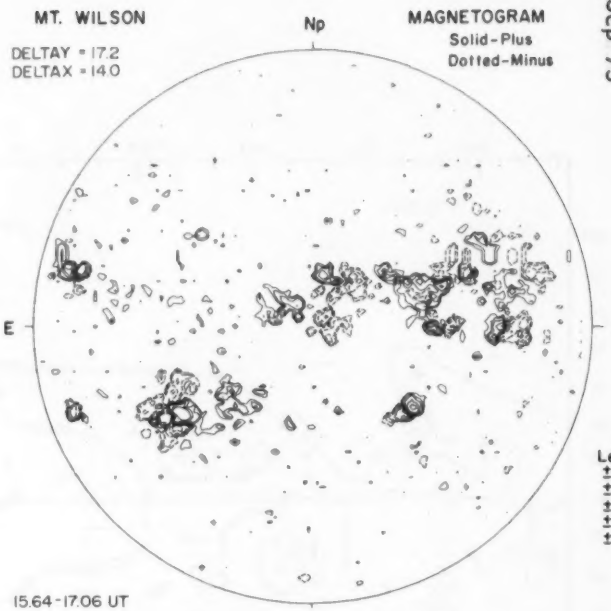
1425 UT

Contours in Intervals of 200° K

MT. WILSON

MAGNETOGRAM
Solid-Plus
Dotted-Minus

DELTAY = 17.2
DELTAX = 14.0



Levels
±5
±10
±20
±40
±80

15.64-17.06 UT

STANFORD

9.1 cm

Np

E W

Operation of the Stanford Microwave Spectroheliograph ceased August 31, 1973. The first map of the series was for July 4, 1959. Virtually gap-free data exist from 1964. These maps have been published in *Solar-Geophysical Data* from April 1960. Each year the data were placed on a 600 foot 9 track reel of magnetic tape and are available from R. N. Bracewell, Radio Science Laboratory, Stanford University, Stanford, California 94305.

LOWEST CONTOUR = 40,000° K CONTOUR INTERVAL = 10,000° K

Sp

20-21 UT

Brightness Unit 5,000° K

FLEURS, AUSTRALIA

21 cm

N

NO DATA

S

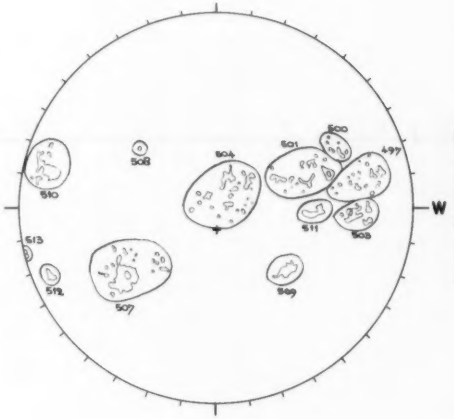
02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT

Np



GOOD	S
01 - 1800	- 2.5
03 - 1200	- 3.5
04 - 1600	- 2.5
07 - 3500	- 3.5
09 - 0800	- 2.5
10 - 2200	- 3.5
11 - 0800	- 2.5
12 - 0700	- 3.5

1630 UT

20-21 UT

Brightness Unit 5,000° K

02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

1630 UT

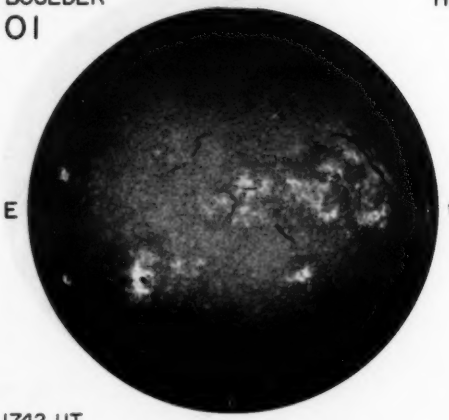
BOULDER
01

Np

Hα

E

W



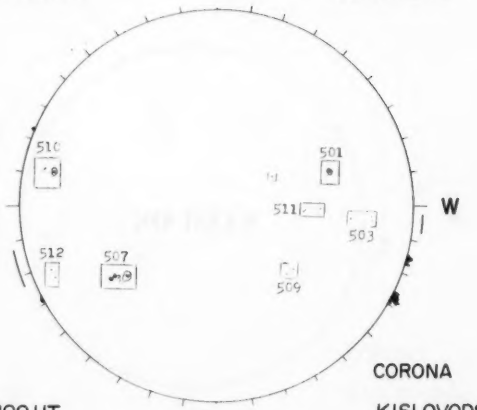
1742 UT

Sp

BOULDER

Np

SUNSPOTS



E

W

CORONA

KISLOVODSK

1800 UT

Sp

NRL
OSO-7

Np

WHITE-LIGHT
CORONA

E

W

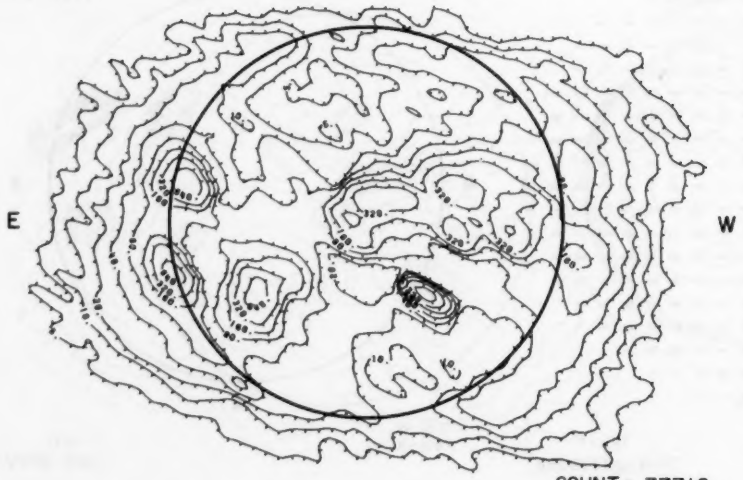
0943 UT

Sp

NASA GSFC
OSO-7

Np

FE XV
284A



E

W

COUNT = 77710
ROLL = 32.2°
P-TH = -0.86

0502 UT

Sp

Np

NRL
OSO-7

171-630A

During the early part of June the NRL instrument began to suffer a gradual disintegration of the XUV filter which previously limited the wavelength to the band 170 - 630 Å. The band extends now to nearly 1600 Å, and the XUV image is diluted mainly with chromospheric Lyman-α radiation. The contrast is therefore lower and the intensity counts higher. No count is given when a maximum has been reached resulting in computer overflow.

E

W

1308 UT
COUNT = 278723

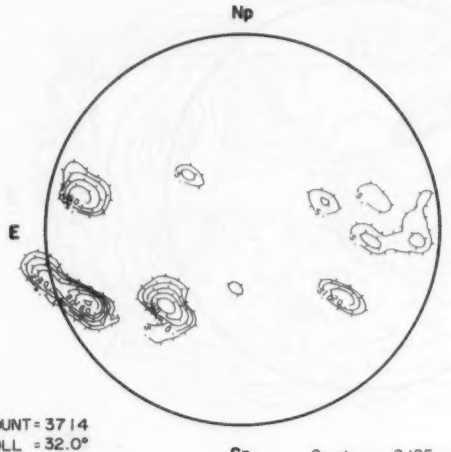
Sp

27
Sep 73

SEPTEMBER 2, 1973 (P = 21.33, B_o = 7.21, L_o = 219.39)

NASA GSFC
OSO-7

X-RAY
8-16A



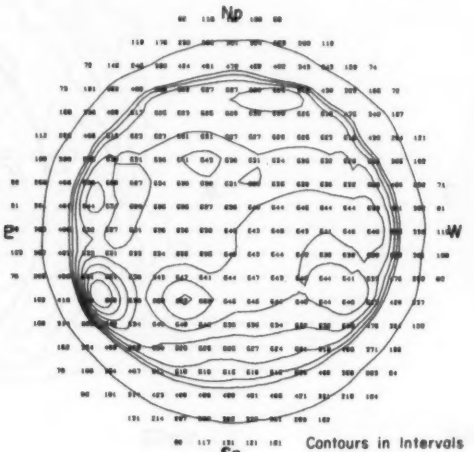
COUNT = 37.14
ROLL = 32.0°
P-TH = -0.74

0353 UT

Counts per 0.125 sec.

PROSPECT HILL
AFCRL

8.6 mm



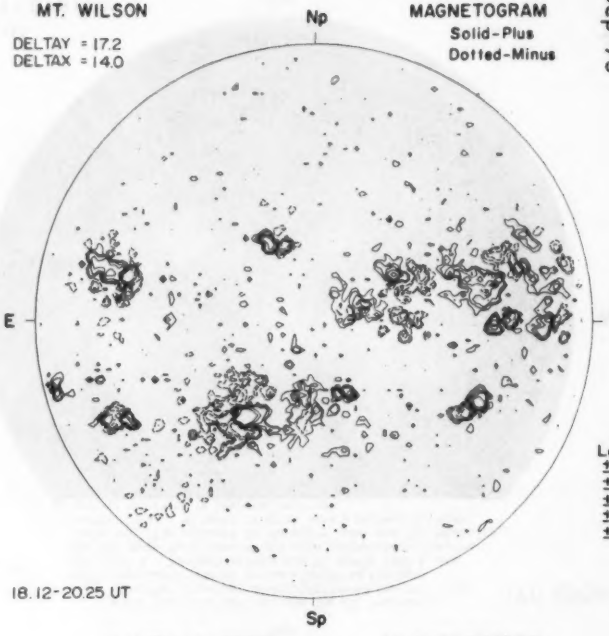
1825 UT

Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.2
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus

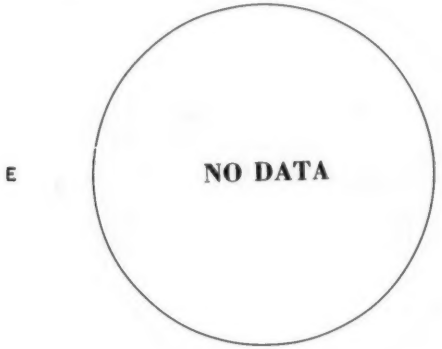


Levels
±5
±10
±20
±40
±80

18.12-20.25 UT

FLEURS, AUSTRALIA

21 cm

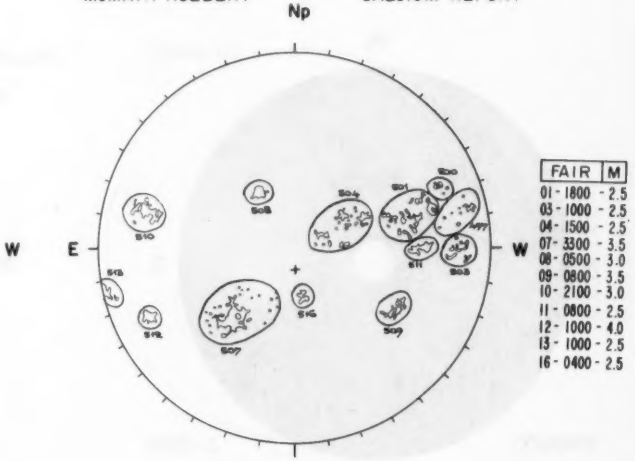


02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



FAIR	M
01 - 1800	- 2.5
03 - 1000	- 2.5
04 - 1500	- 2.5
07 - 3300	- 3.5
08 - 0500	- 3.0
09 - 0800	- 3.5
10 - 2100	- 3.0
11 - 0800	- 2.5
12 - 1000	- 4.0
13 - 1000	- 2.5
16 - 0400	- 2.5

1600 UT

02-03 UT
Resolution 3 Minutes of Arc
Brightness Unit 1,700° K
1600 UT

BOULDER
02
Np
Hα
E
W
Sp
1747 UT

BOULDER
Np
SUNSPOTS
510
508
501
511
512
507
516
509
E
W
Sp
1515 UT

CORONA
KISLOVODSK

NRL
OSO-7
Np
WHITE-LIGHT
CORONA
E
W
Sp
0700-1126 UT

NASA GSFC
OSO-7
Np
FE XV
284A
E
W
Sp
COUNT = 88245
ROLL = 32.0°
P-TH = -0.74
0353 UT

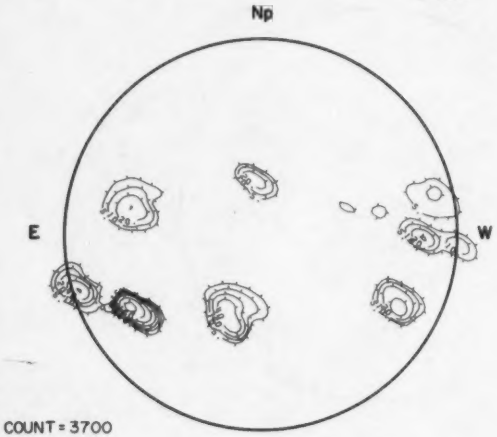
NRL
OSO-7
Np
171-630A
E
W
Sp
0351 UT
COUNT = ---

29 Sep 73

SEPTEMBER 3, 1973 (P = 21.57, B_o = 7.22, L_o = 206.19)

NASA GSFC
OSO-7

X-RAY
8-16A



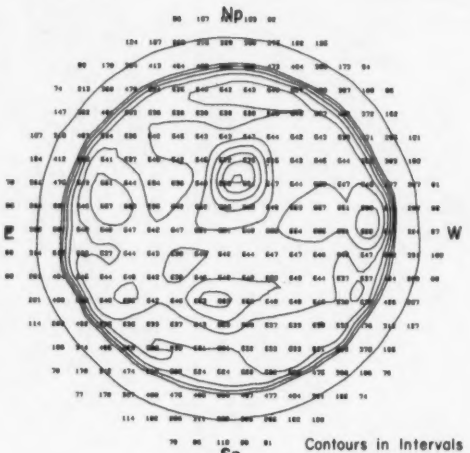
COUNT = 3700
ROLL = 31.6°
P-TH = -0.62

0240 UT

Counts per 0.125 sec.

PROSPECT HILL
AFCRL

8.6 mm



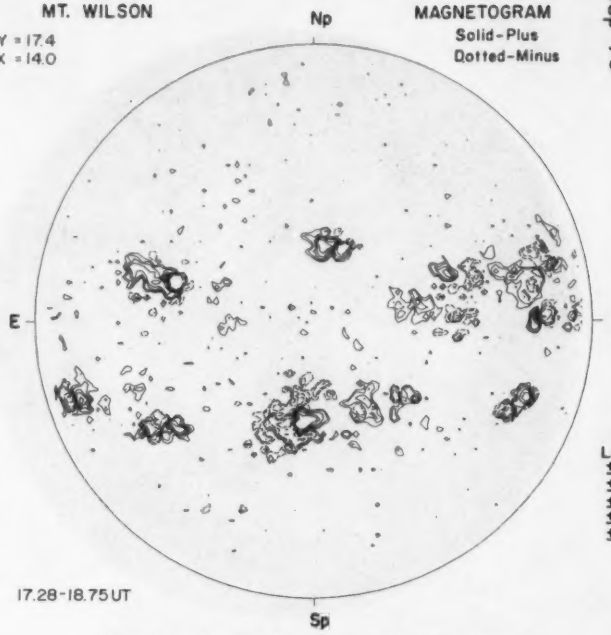
1635 UT

Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.4
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus

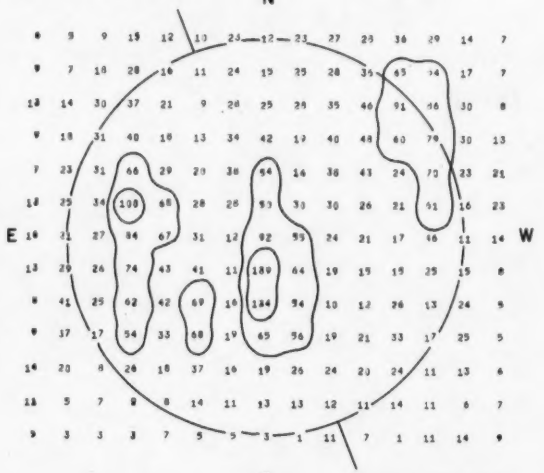


Levels
±5
±10
±20
±40
±80

17.28-18.75 UT

FLEURS, AUSTRALIA

21 cm

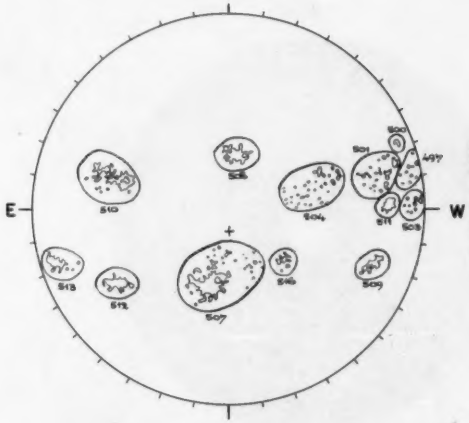


02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



FAIR	M
07 - 3200	- 4.0
08 - 1000	- 4.0
09 - 0900	- 3.0
10 - 2000	- 3.5
11 - 0900	- 3.5
12 - 1200	- 3.5
13 - 1200	- 3.0

1600 UT

S
02-03 UT

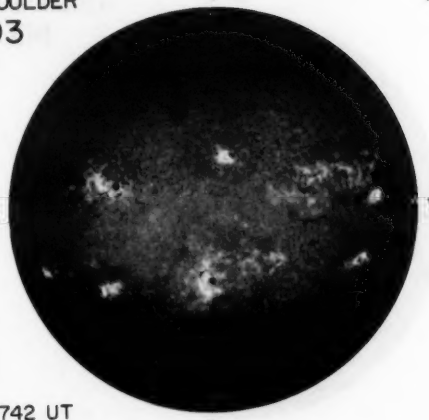
Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

Sp
1600 UT

BOULDER
03

Np

Hα



E W

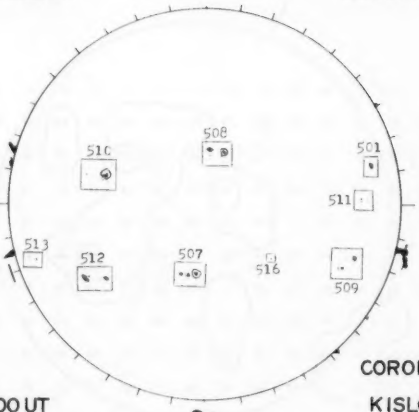
1742 UT

Sp

BOULDER

Np

SUNSPOTS



E W

CORONA
KISLOVODSK

1500 UT

Sp

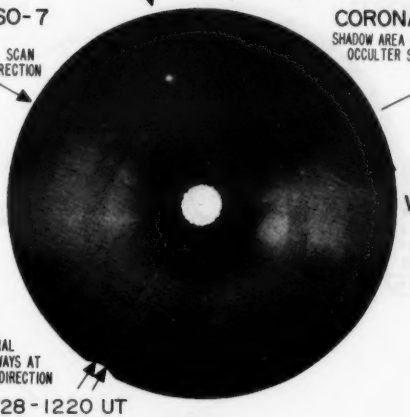
NRL
OSO-7

MERCURY

WHITE-LIGHT
CORONA

SHADOW AREA CAUSED BY OCCULTER SUPPORT

TV SCAN DIRECTION



E W

TWO DIAMETRAL STREAKS, ALWAYS AT 90° TO SCAN DIRECTION

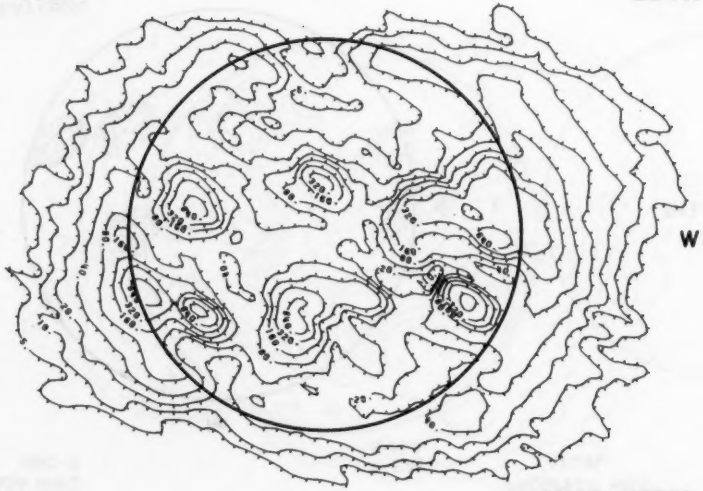
0728-1220 UT

Sp

NASA GSFC
OSO-7

Np

FE XV
284 A



E W

COUNT = 90590
ROLL = 31.6°
P-TH = -0.62

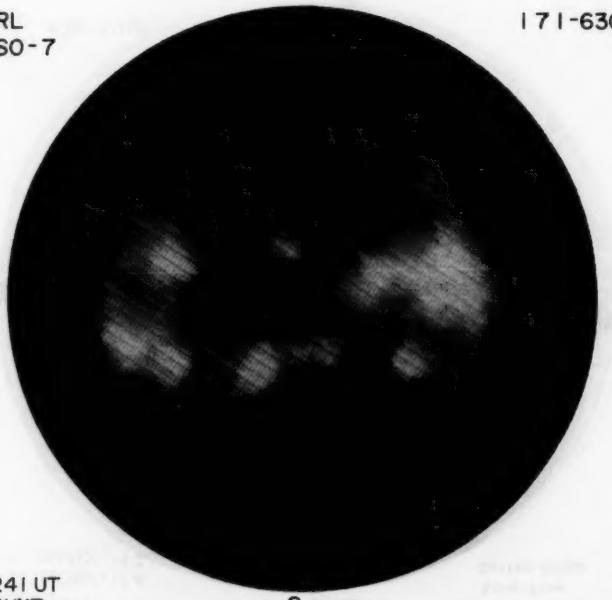
0240 UT

Sp

Np

NRL
OSO-7

171-630A



E W

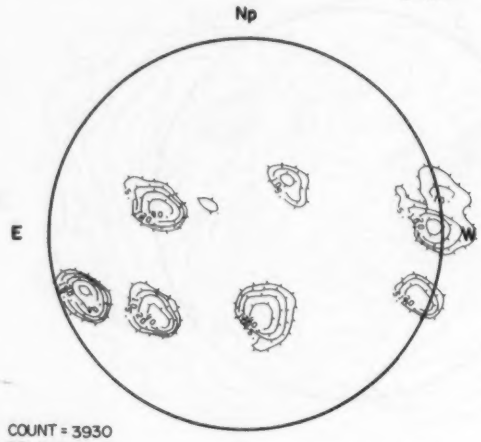
0241 UT
COUNT = ---

Sp

SEPTEMBER 4, 1973 (P=21.81, B_o = 7.23, L_o = 192.98)

NASA GSFC
OSO-7

X-RAY
8-16A



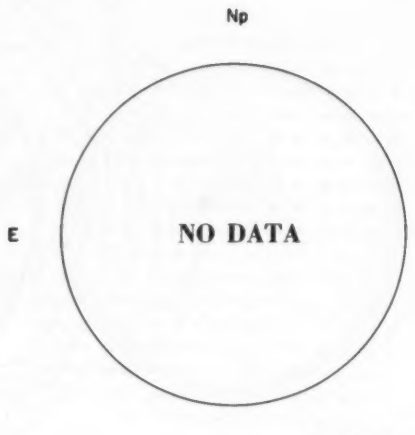
COUNT = 3930
ROLL = 31.3°
P-TH = -0.49

0445 UT

Counts per 0.125 sec.

PROSPECT HILL
AFCRL

8.6 mm

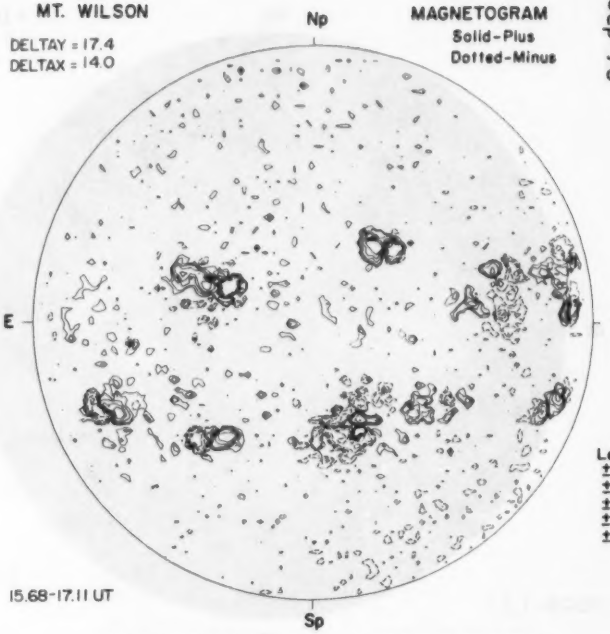


Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.4
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus

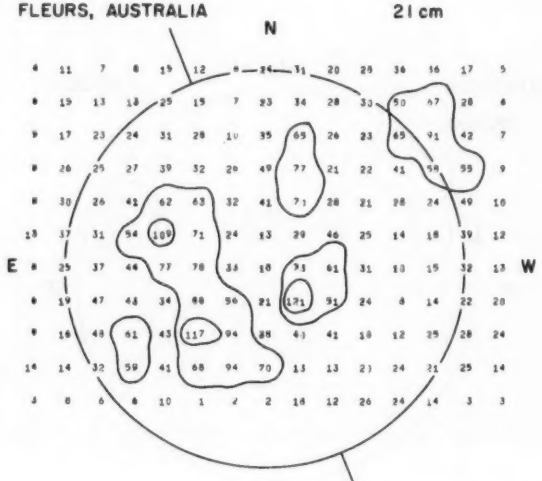


Levels
±5
±10
±20
±40
±80

15.68-17.11 UT

FLEURS, AUSTRALIA

21 cm

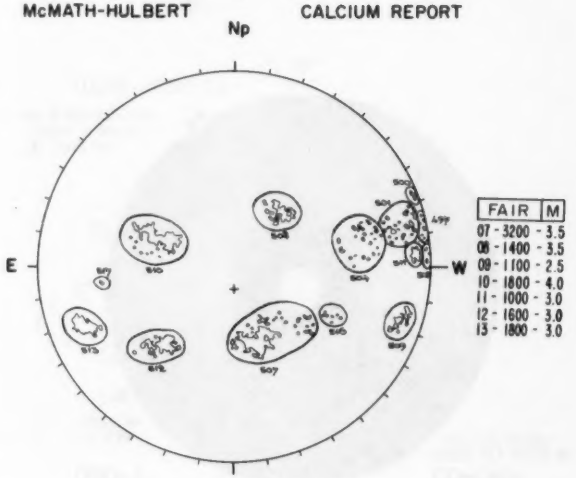


02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



1500 UT

02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

1500 UT

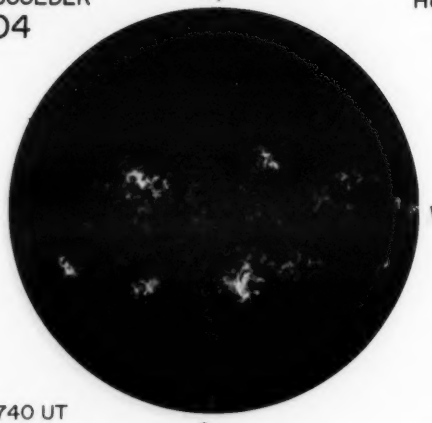
BOULDER
04

Np

Hα

E

W



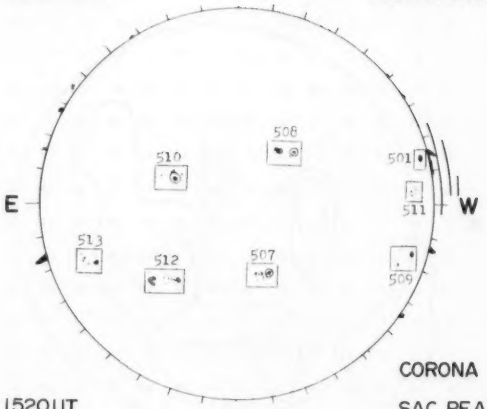
1740 UT

Sp

BOULDER

Np

SUNSPOTS



E

W

CORONA

SAC PEAK

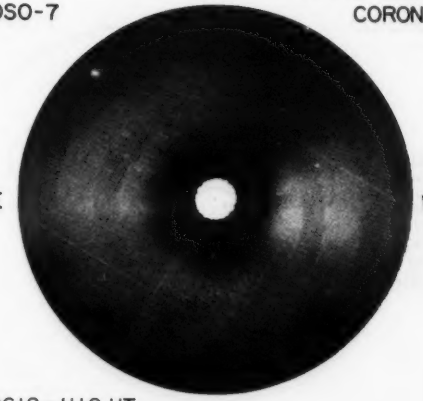
1520UT

Sp

NRL
OSO-7

Np

WHITE-LIGHT
CORONA



E

W

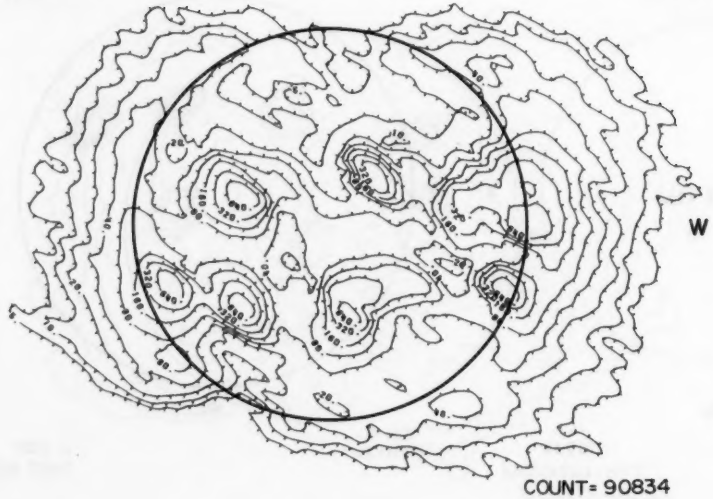
0618 - 1110 UT

Sp

NASA GSFC
OSO - 7

Np

FE XV
284A



E

W

COUNT= 90834
ROLL = 31.3°
P-TH = -0.49

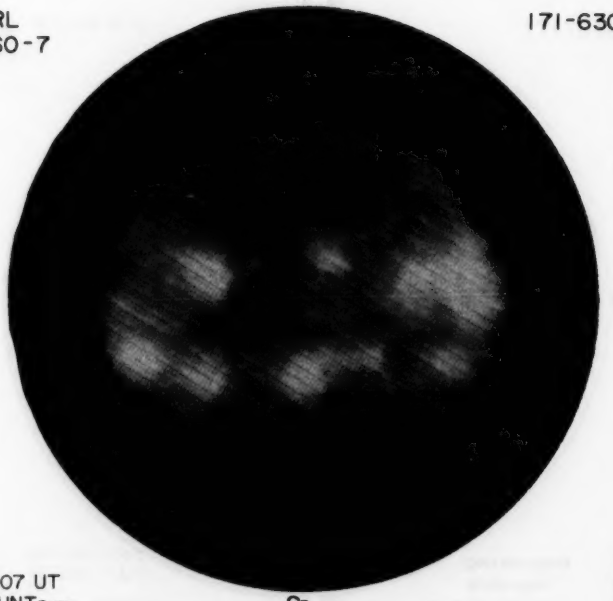
0445 UT

Sp

NRL
OSO-7

Np

171-630A



E

W

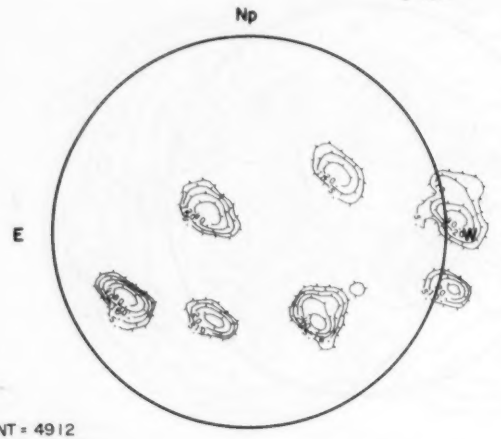
0307 UT
COUNT= ---

Sp

SEPTEMBER 5, 1973 (P = 22.05, B_o = 7.24, L_o = 179.77)

NASA GSFC
OSO-7

X-RAY
8-16A



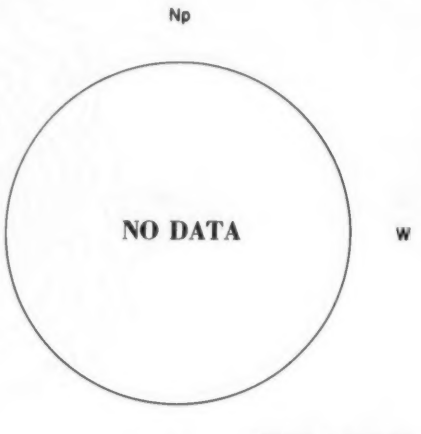
COUNT = 4912
ROLL = 31.1°
P-TH = -0.34

1000 UT

Counts per 0.125 sec.

PROSPECT HILL
AFCRL

8.6 mm

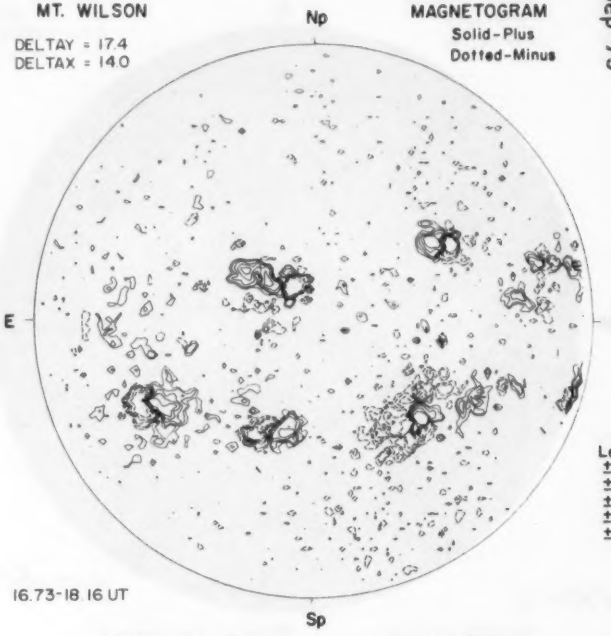


Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.4
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus

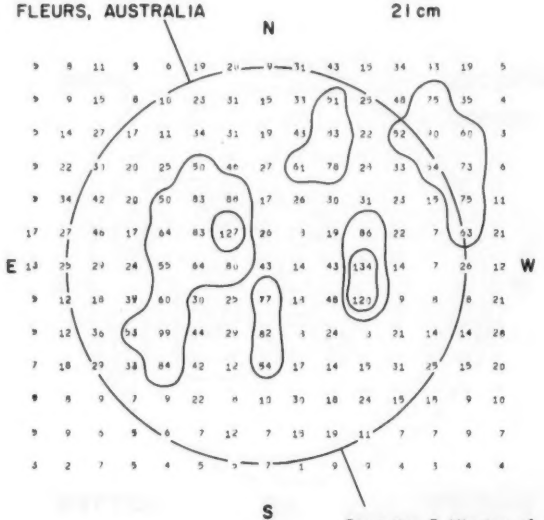


Levels
±5
±10
±20
±40
±80

16.73-18.16 UT

FLEURS, AUSTRALIA

21 cm

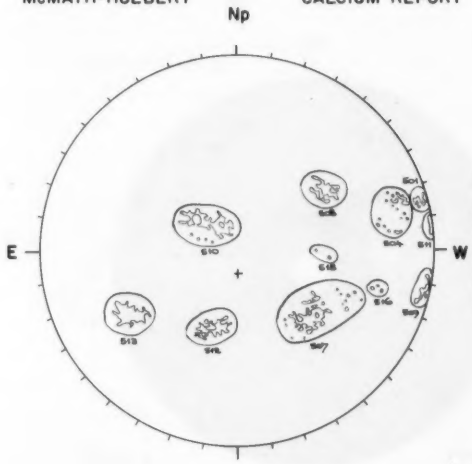


02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



POOR	M
07 - 3200	3.5
08 - 1400	3.5
09 - 1000	2.5
10 - 1900	3.5
11 - 1100	3.5
12 - 1400	3.0
13 - 2100	3.5

1600 UT

S
02-03 UT

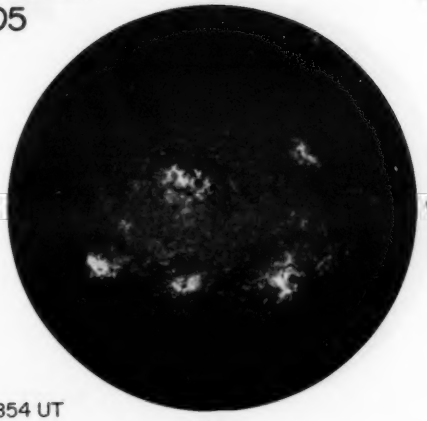
Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

Sp
1600 UT

BOULDER
05

Np

Hα



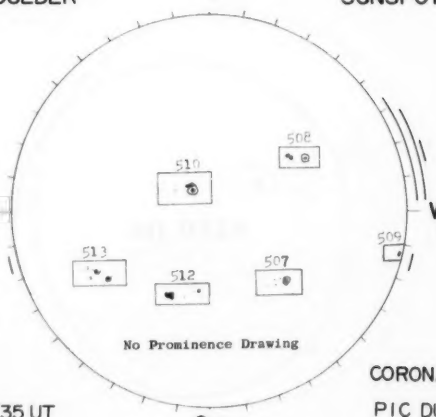
E W

Sp
1854 UT

BOULDER

Np

SUNSPOTS



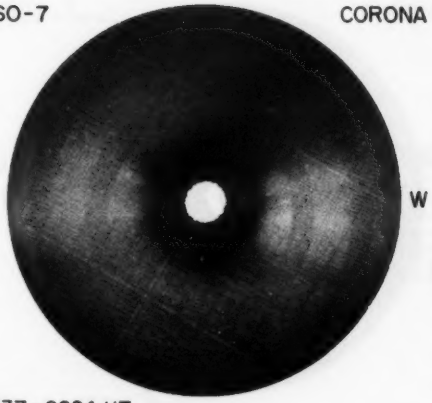
E W

CORONA
PIC DU MIDI

Sp
1535 UT

NRL
OSO-7

WHITE-LIGHT
CORONA



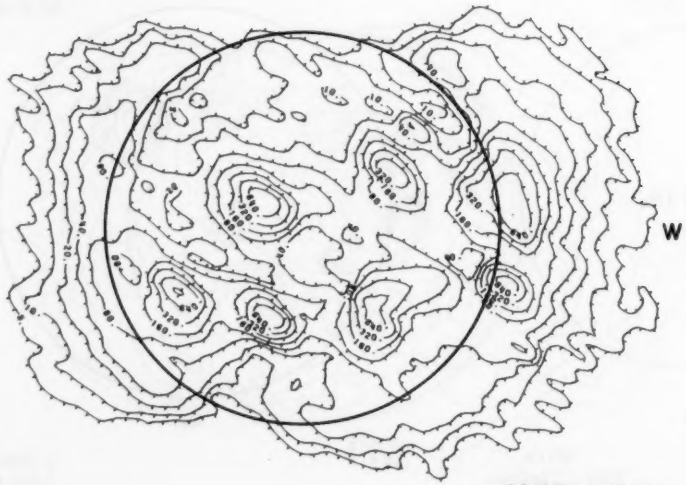
E W

Sp
0337-0824 UT

NASA GSFC
OSO-7

Np

FE XV
284A



E W

COUNT= 88295
ROLL = 31.1°
P-TH = -0.34

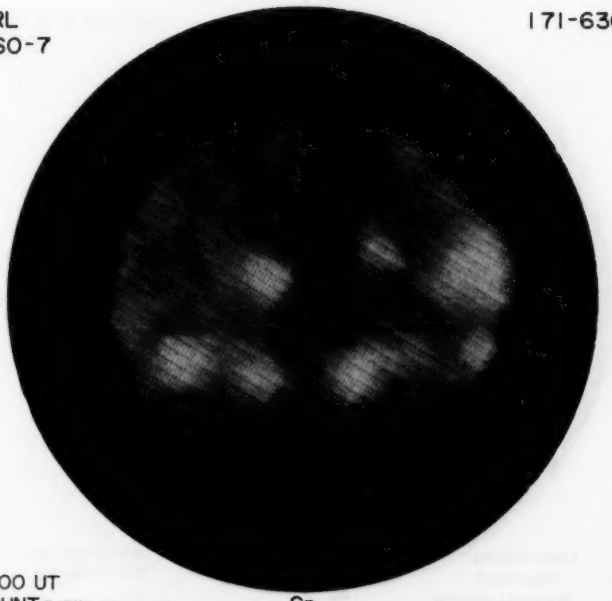
1000 UT

Sp

Np

NRL
OSO-7

171-630A



E W

1000 UT
COUNT = ---

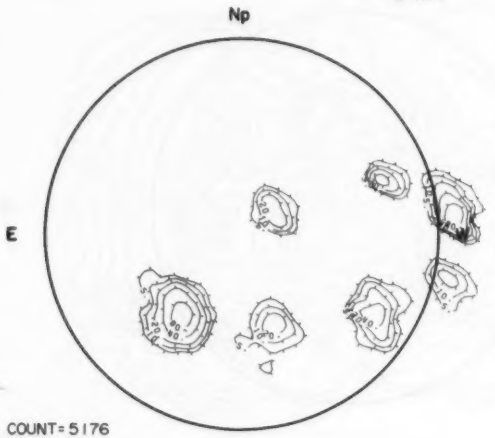
Sp

35
Sep 73

SEPTEMBER 6, 1973 (P=22.28, B_o = 7.24, L_o = 166.56)

NASA GSFC
OSO-7

X-RAY
8-16A



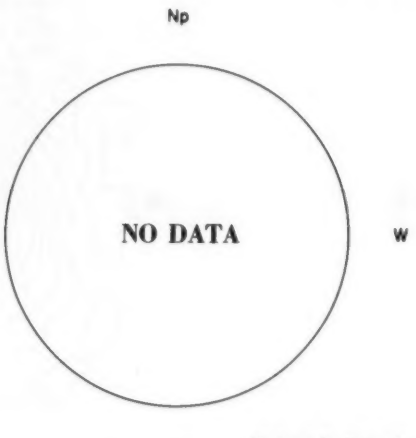
COUNT= 5176
ROLL = 30.6°
P-TH = -0.15

2228 UT

Counts per 0.125 sec.

PROSPECT HILL
AFCRL

8.6 mm

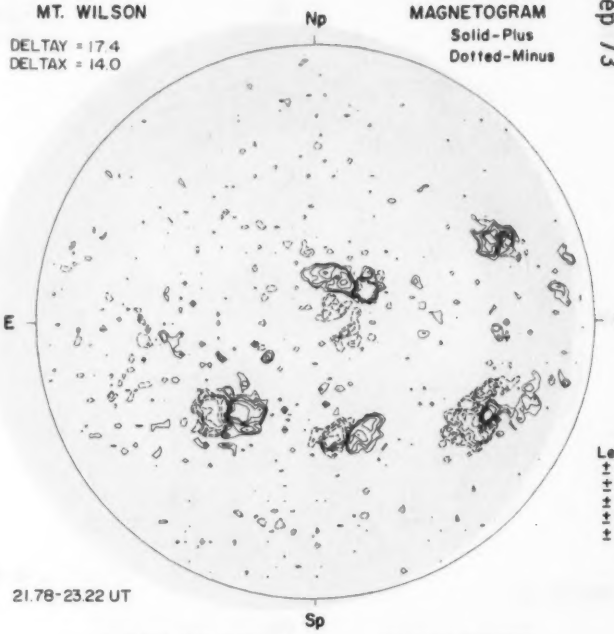


Contours in intervals of 200° K

MT. WILSON

DELTAY = 17.4
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus



Levels
±5
±10
±20
±40
±80

21.78-23.22 UT

FLEURS, AUSTRALIA

21 cm

02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT

POOR	B
07 - 2800	-45*
08 - 1500	-35
10 - 1900	-35
12 - 1200	-30
13 - 2000	-35

*READING TAKEN DURING SUB-FLARE

1210 UT

S
02-03 UT

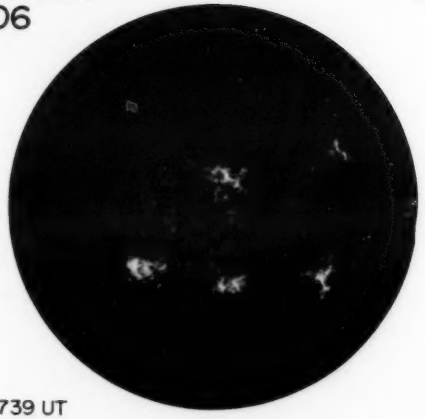
Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

Sp
1210 UT

BOULDER
06

Np

Hα



E

W

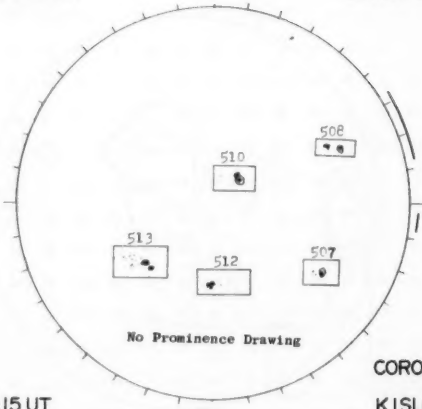
1739 UT

Sp

BOULDER

Np

SUNSPOTS



E

W

CORONA

1515 UT

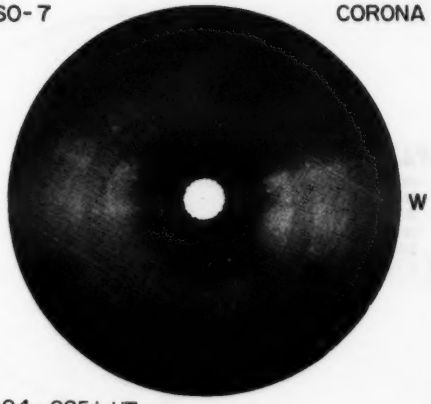
KISLOVODSK

Sp

NRL
OSO-7

Np

WHITE-LIGHT
CORONA



E

W

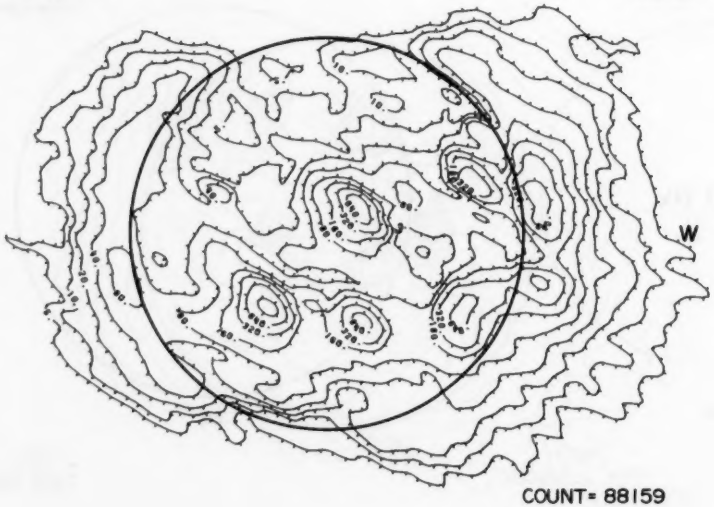
0404-0851 UT

Sp

NASA GSFC
OSO-7

Np

FE XV
284A



E

W

COUNT= 88159
ROLL = 30.6°
P-TH = -0.15

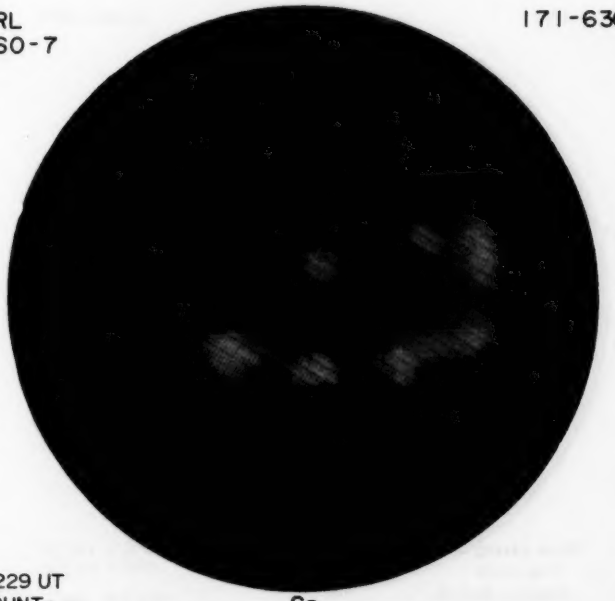
2228 UT

Sp

NRL
OSO-7

Np

171-630A



E

W

2229 UT
COUNT= ---

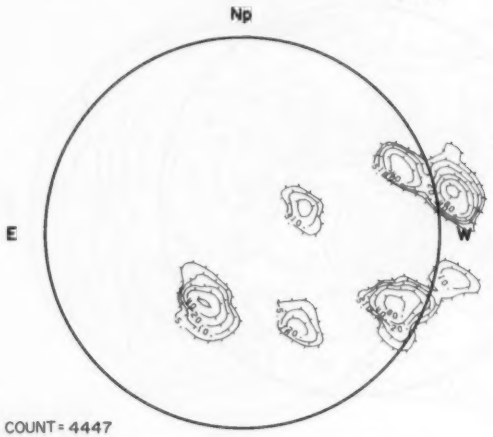
Sp

37
Sep 73

SEPTEMBER 7, 1973 (P=22.50, B_o=7.25, L_o=153.36)

NASA GSFC
OSO-7

X-RAY
8-16A



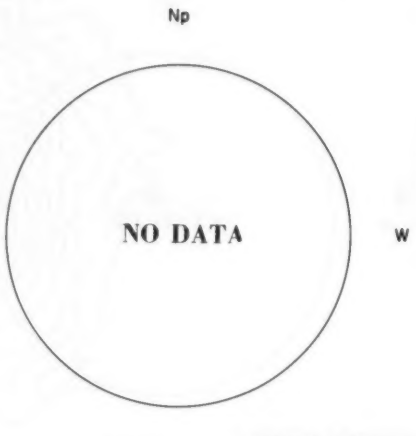
COUNT=4447
ROLL =30.4°
P-TH =-0.09

1059 UT

Counts per 0.125 sec.

PROSPECT HILL
AFCRL

8.6 mm

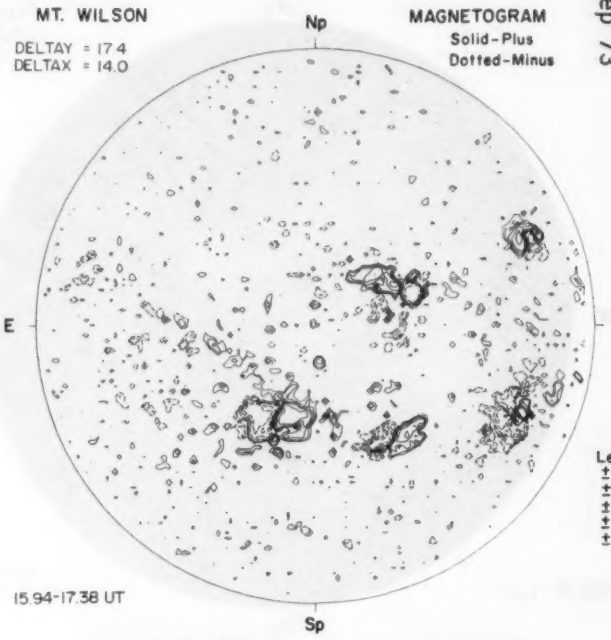


Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.4
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus

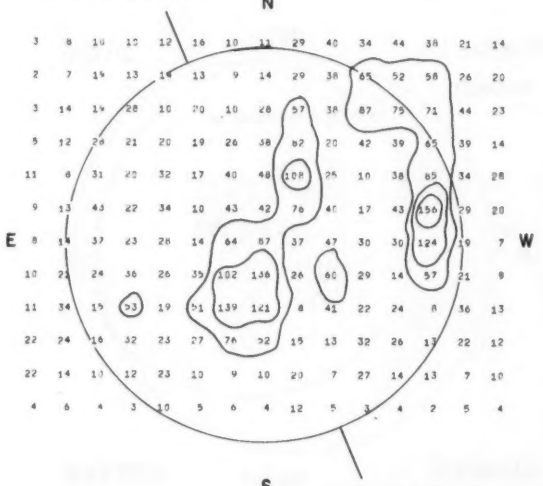


Levels
±5
±10
±20
±40
±80

15.94-17.38 UT

FLEURS, AUSTRALIA

21 cm

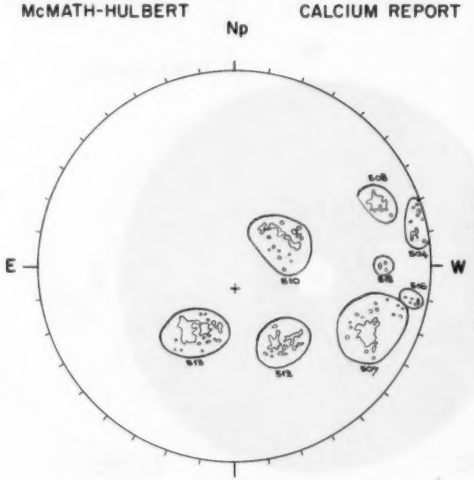


02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



FAIR	B
07 - 3000 - 5.0*	
08 - 1500 - 3.5	
10 - 1600 - 3.5	
12 - 1200 - 3.5	
13 - 2000 - 3.5	

*READING TAKEN DURING FLARE

1230 UT

S

02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

Sp

1230 UT

BOULDER
07

Np

Hα

E

W

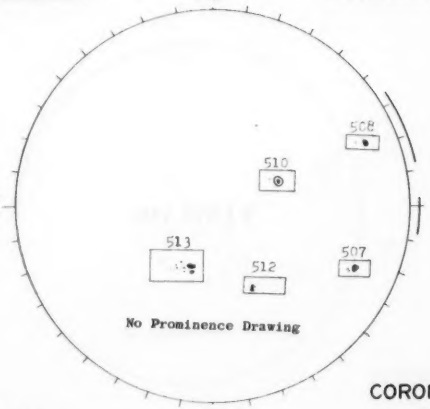
1358 UT

Sp

BOULDER

Np

SUNSPOTS



E

W

1500 UT

Sp

CORONA
KISLOVODSK

NRL
OSO-7

WHITE-LIGHT
CORONA

E

W

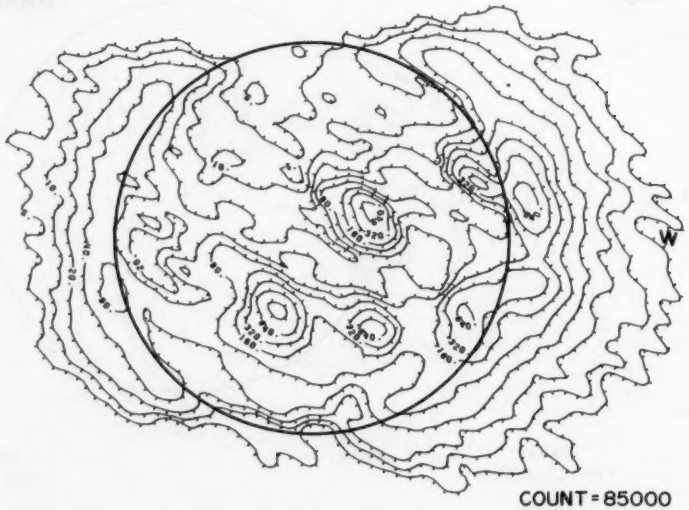
0435-0919 UT

Sp

NASA GSFC
OSO-7

Np

FE XV
284A



E

W

COUNT = 85000
ROLL = 30.4°
P-TH = -0.09

1059 UT

Sp

Np

NRL
OSO-7

171-630A

E

W

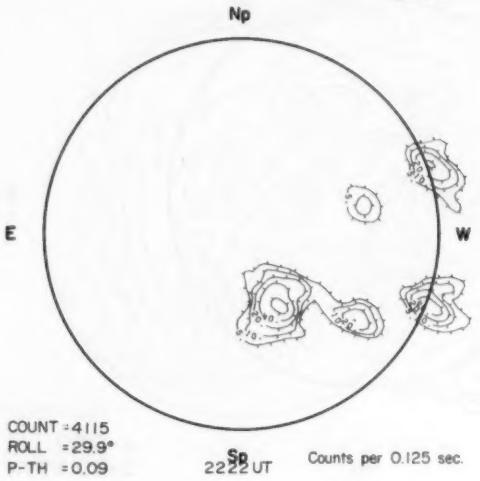
2155 UT
COUNT = ---

Sp

SEPTEMBER 8, 1973 (P=22.72, B_o=7.25, L_o=140.15)

NASA GSFC
OSO-7

X-RAY
8-16A



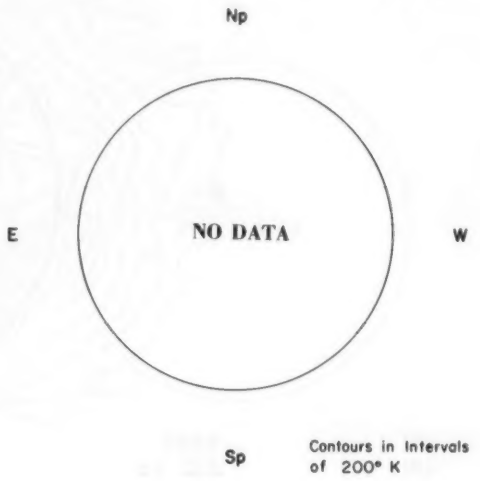
COUNT =4115
ROLL =29.9°
P-TH =0.09

2222 UT

Counts per 0.125 sec.

PROSPECT HILL
AFCRL

8.6 mm

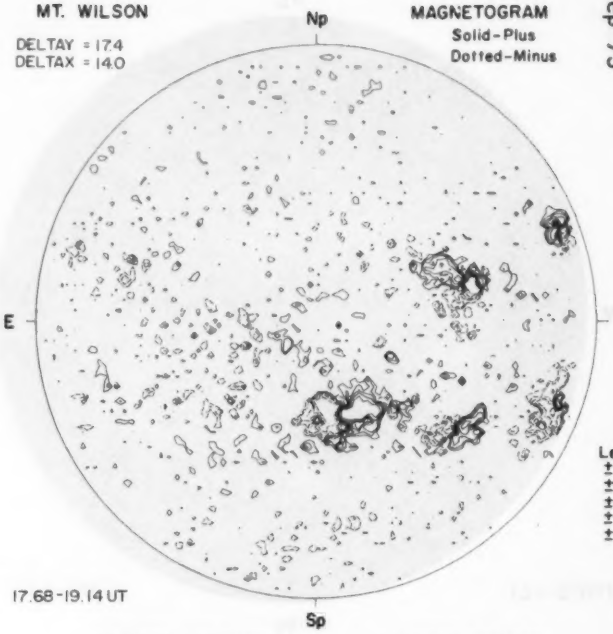


Contours in Intervals of 200° K

MT. WILSON

MAGNETOGRAM
Solid-Plus
Dotted-Minus

DELTAY = 17.4
DELTAX = 14.0



Levels
±5
±10
±20
±40
±80

17.68-19.14 UT

FLEURS, AUSTRALIA

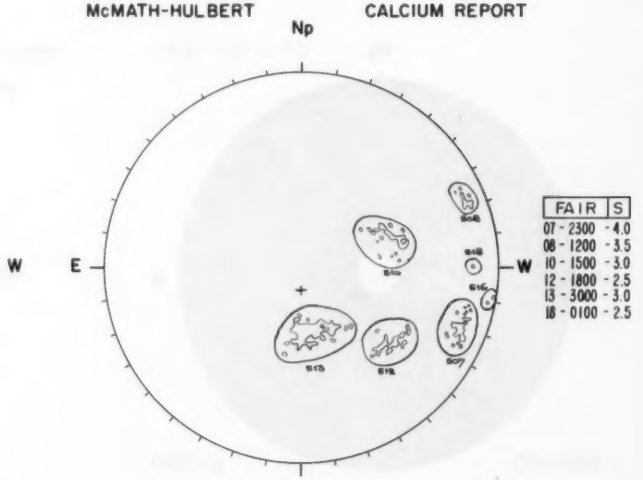
21 cm

02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



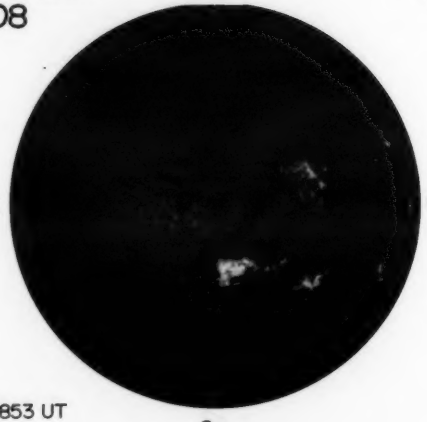
FAIR	S
07 - 2300	4.0
08 - 1200	3.5
10 - 1500	3.0
12 - 1800	2.5
13 - 3000	3.0
18 - 0100	2.5

1300 UT

BOULDER

02-03 UT Resolution 3 Minutes of Arc Brightness Unit 1,700° K 1300UT

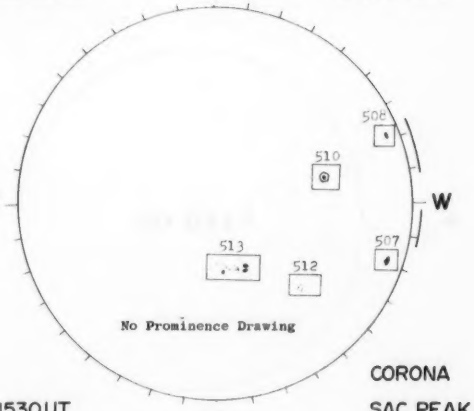
BOULDER 08 Np Hα



E W

1853 UT Sp

BOULDER Np SUNSPOTS



E W

CORONA
SAC PEAK

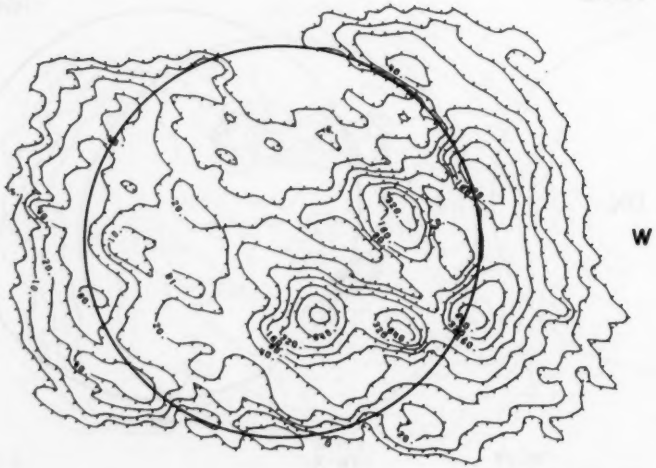
1530UT Sp

NRL OSO-7 WHITE-LIGHT CORONA

E W

0325-0809 UT Sp

NASA GSFC OSO-7 Np FE XV 284A

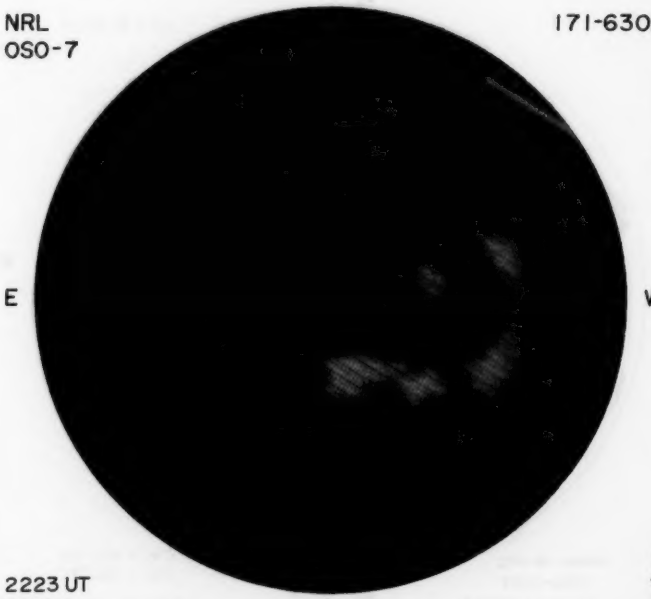


E W

COUNT = 61243
ROLL = 29.9°
P-TH = 0.09

2222 UT Sp

NRL OSO-7 Np 171-630A



E W

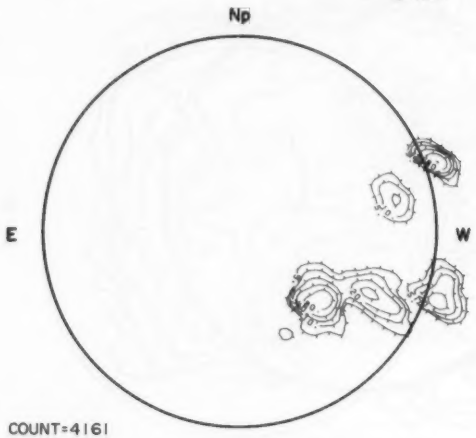
2223 UT
COUNT = ---

Sp

SEPTEMBER 9, 1973 (P = 22.93, B_o = 7.25, L_o = 126.94)

NASA GSFC
OSO-7

X-RAY
8-16A



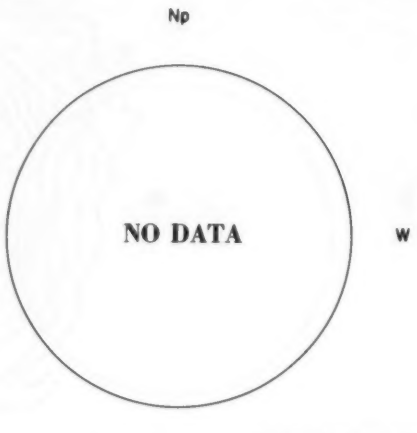
COUNT=4161
ROLL =28.8°
P-TH =0.21

21.76 UT

Counts per 0.125 sec.

PROSPECT HILL
AFCRL

8.6 mm

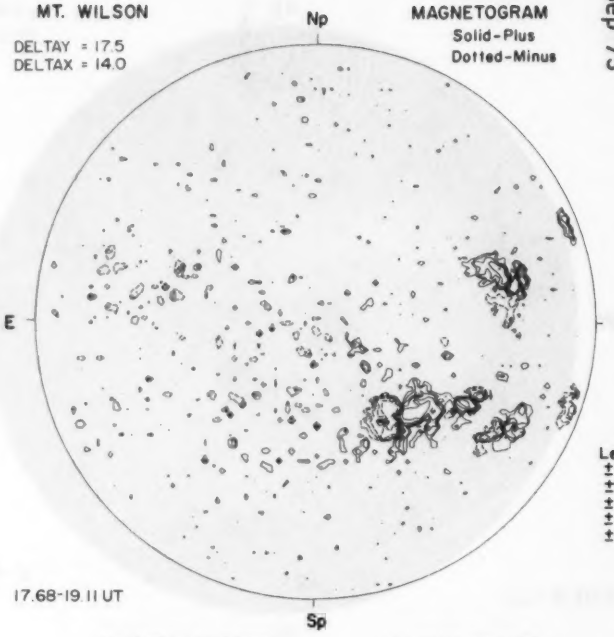


Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.5
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus

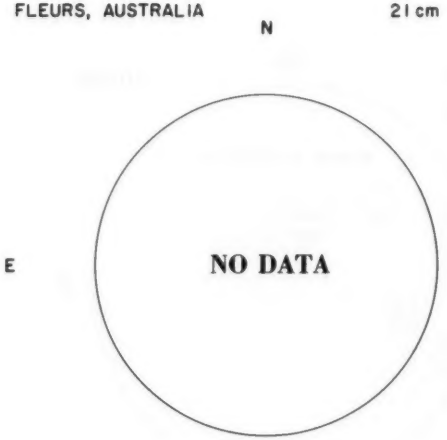


Levels
±5
±10
±20
±40
±80

17.68-19.11 UT

FLEURS, AUSTRALIA

21 cm

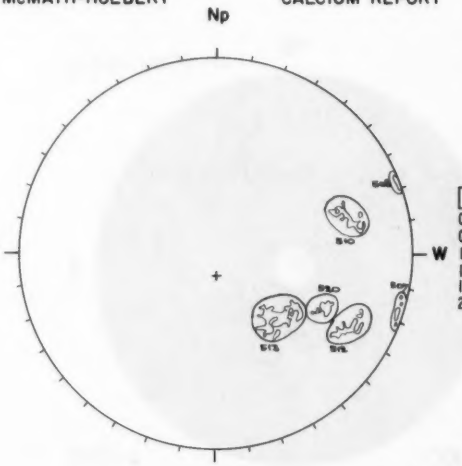


02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT

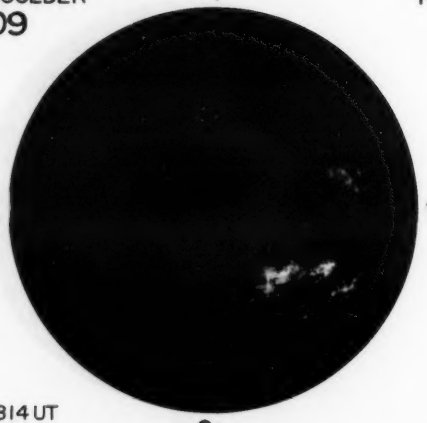


FAIR	M
07 - 2000	- 3.0
08 - 1500	- 3.0
10 - 1300	- 3.0
12 - 1700	- 2.5
13 - 2900	- 3.5
20 - 0900	- 3.0

1925 UT

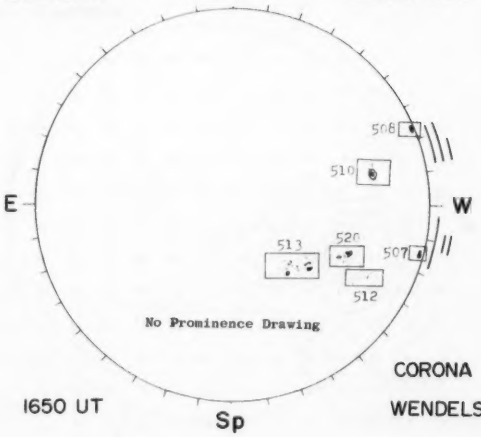
02-03 UT Resolution 3 Minutes of Arc Brightness Unit 1,700° K 1925 UT

BOULDER 09 Np Hα



1814 UT

BOULDER Np SUNSPOTS



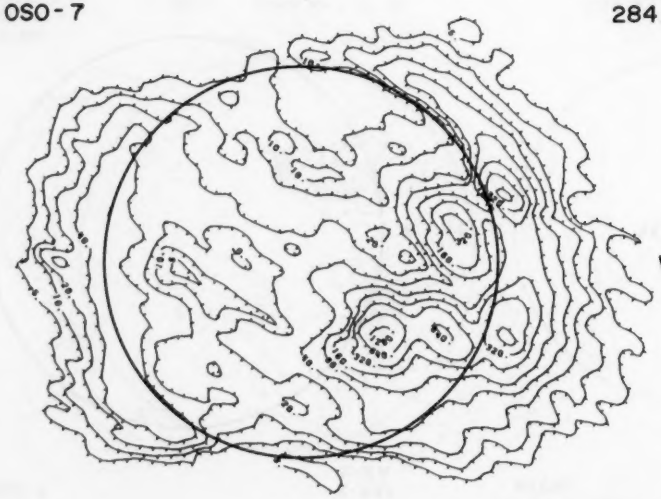
1650 UT

CORONA
WENDELSTEIN

NRL OSO-7 Np WHITE-LIGHT CORONA

0351 - 0837 UT

NASA GSFC OSO-7 Np FE XV 284A

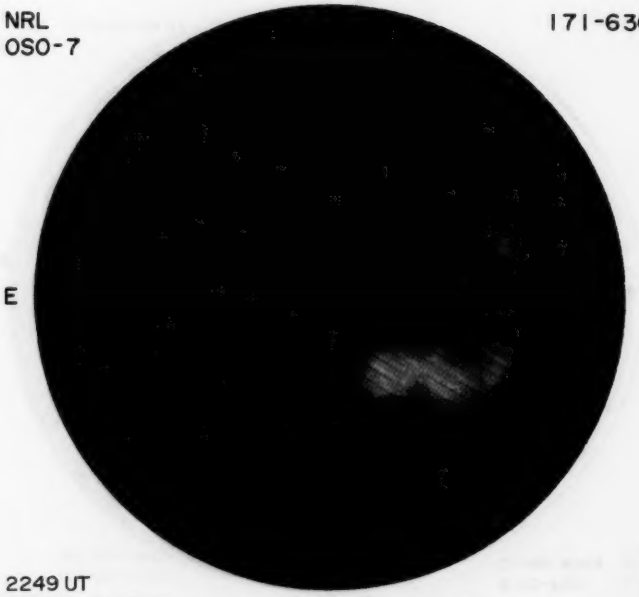


COUNT= 63313
ROLL = 288°
P-TH = 0.21

2116 UT Sp

Np

NRL OSO-7 171-630A

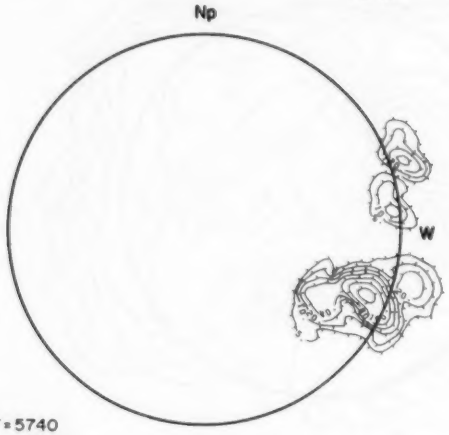


2249 UT
COUNT=314550

SEPTEMBER 10, 1973 (P=23.14, B_o=7.25, L_o=113.74)

NASA GSFC
OSO-7

X-RAY
8-16A



COUNT=5740
ROLL =27.2°
P-TH =0.34

2143 UT

Counts per 0.125 sec.

PROSPECT HILL
AFCRL

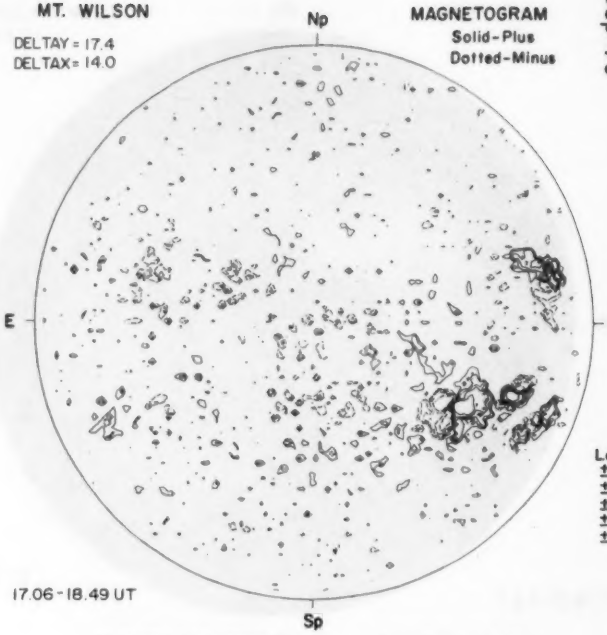
8.6 mm

Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.4
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus

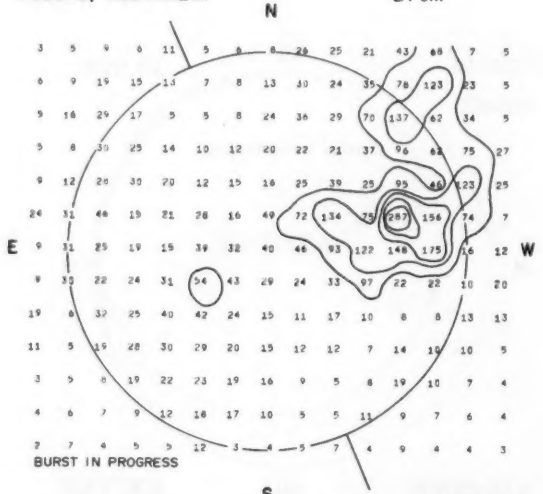


Levels
±5
±10
±20
±40
±80

17.06-18.49 UT

FLEURS, AUSTRALIA

21 cm



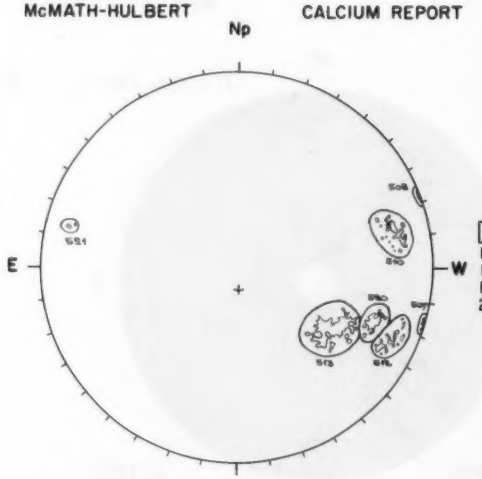
BURST IN PROGRESS

02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



FAIR	M
10 - 1300	- 3.0
12 - 1500	- 3.0
13 - 3000	- 3.5
20 - 1300	- 3.5

1400 UT

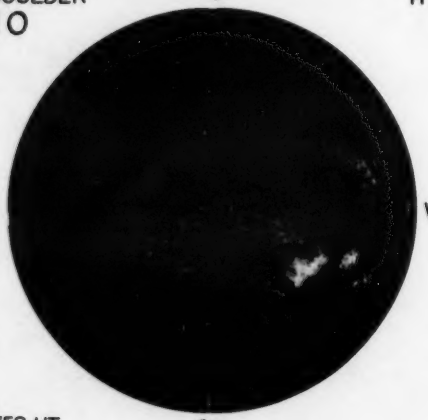
02-03 UT Brightness Unit 1,700° K

1400 UT

BOULDER
10

Np

Hα



E W

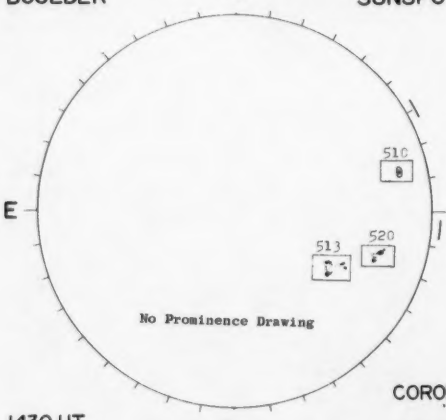
1358 UT

Sp

BOULDER

Np

SUNSPOTS



E W

1430 UT

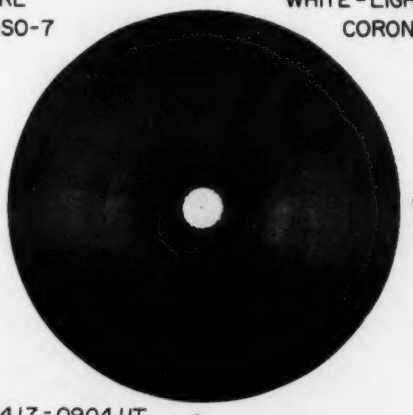
Sp

CORONA
KISLOVODSK

NRL
OSO-7

Np

WHITE-LIGHT
CORONA



E W

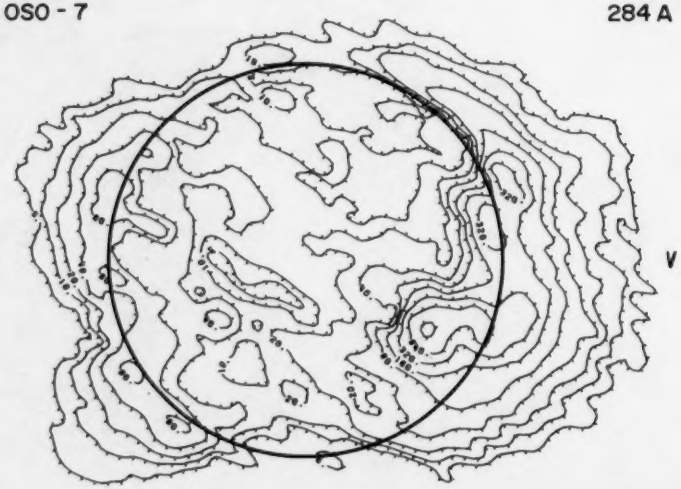
0417-0904 UT

Sp

NASA GSFC
OSO-7

Np

FE XV
284 A



E W

COUNT = 63799
ROLL = 27.2°
P-TH = 0.34

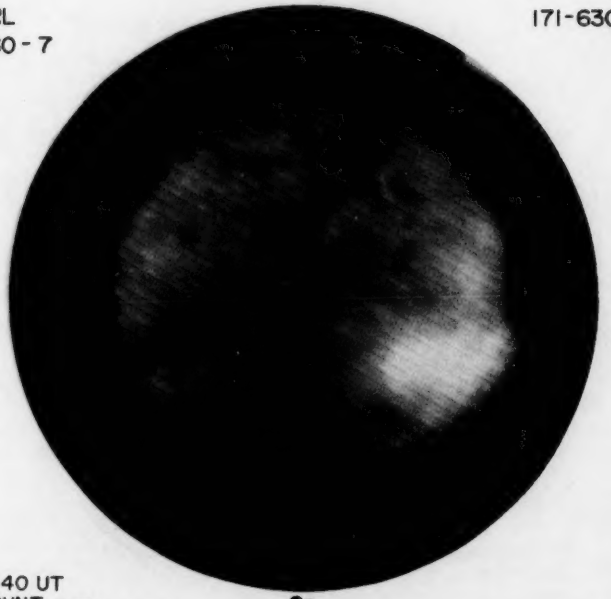
2143 UT

Sp

Np

NRL
OSO-7

171-630A



E W

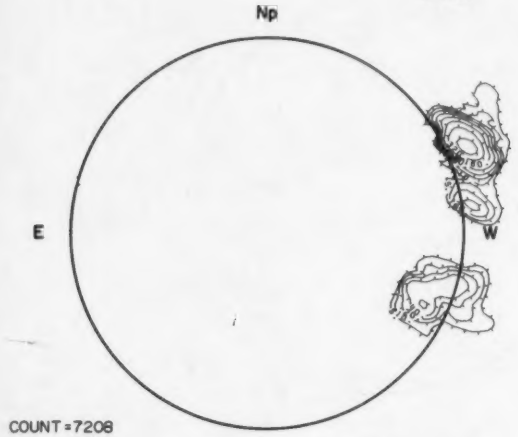
2140 UT
COUNT = ---

Sp

SEPTEMBER 11, 1973 (P=23.34, B_o=7.24, L_o=100.54)

NASA GSFC
OSO-7

X-RAY
8-16A



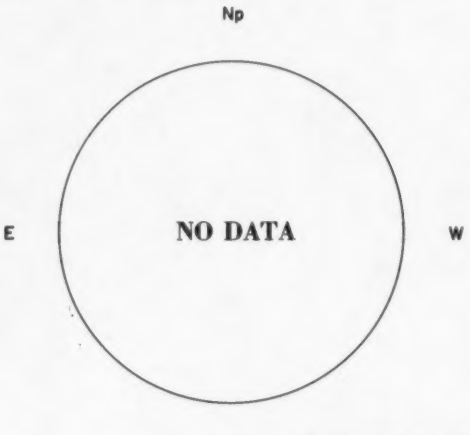
COUNT=7208
ROLL =26.6°
P-TH =0.45

2029 UT

Counts per 0.125 sec.

PROSPECT HILL
AFCRL

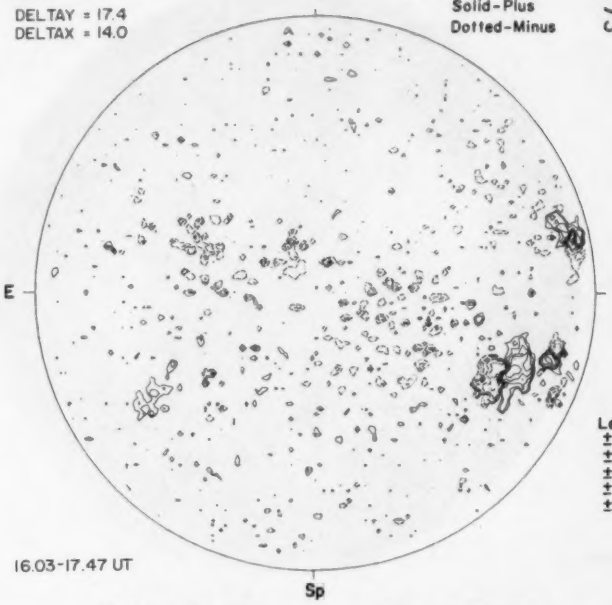
8.6 mm



Contours in Intervals of 200° K

MT. WILSON
DELTAY = 17.4
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus

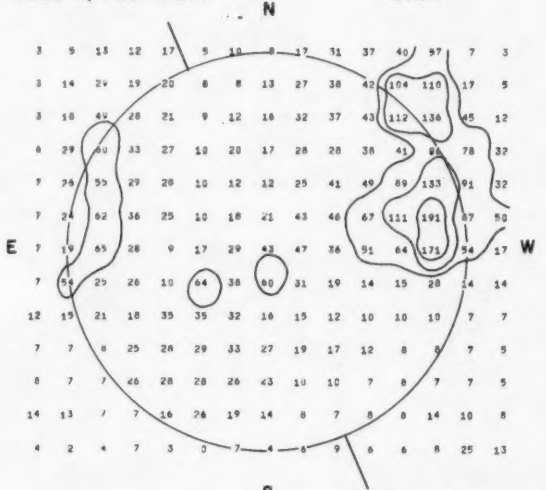


Levels
±5
±10
±20
±40
±80

16.03-17.47 UT

FLEURS, AUSTRALIA

21 cm

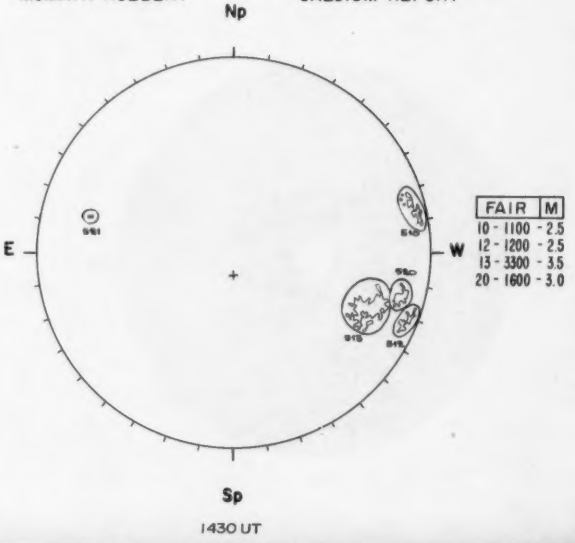


02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



FAIR	M
10 - 1100	- 2.5
12 - 1200	- 2.5
13 - 3300	- 3.5
20 - 1600	- 3.0

1430 UT

S
02-03 UT

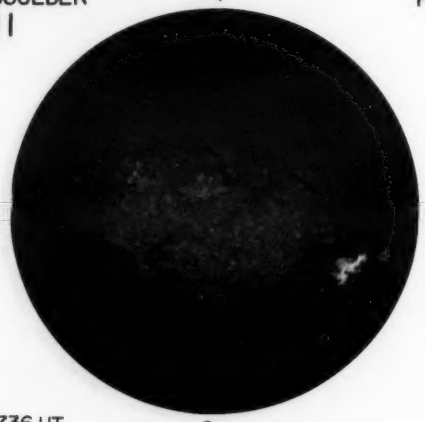
Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

Sp
1430 UT

BOULDER
11

Np

Hα



E W

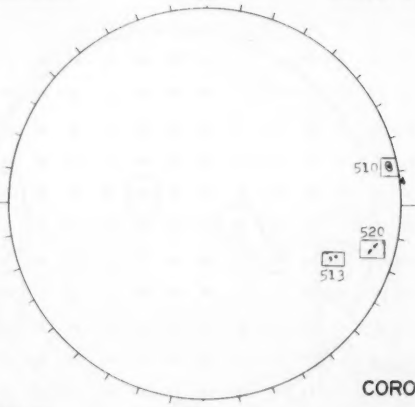
1736 UT

Sp

BOULDER

Np

SUNSPOTS



E W

CORONA
LOMNICKY-STIT

1640 UT

Sp

NRL
OSO-7

Np

WHITE-LIGHT
CORONA

E W

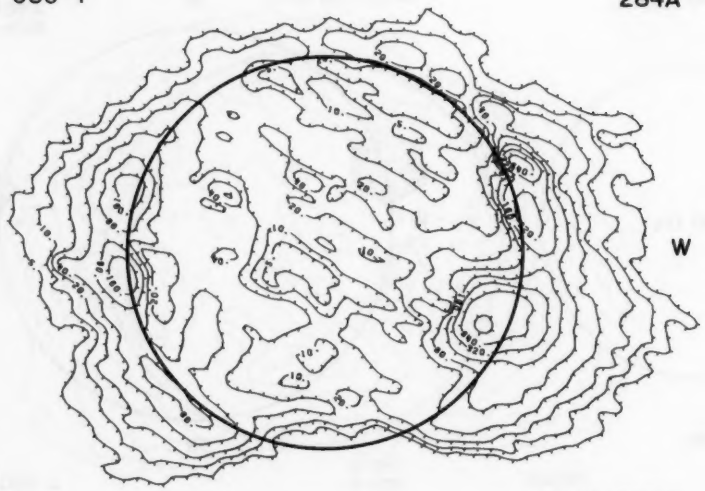
0443-0931 UT

Sp

NASA GSFC
OSO-7

Np

FE XV
284A



E W

COUNT= 62245
ROLL = 26.6°
P-TH = 0.45

2029 UT

Sp

NRL
OSO-7

Np

171-630A

E W

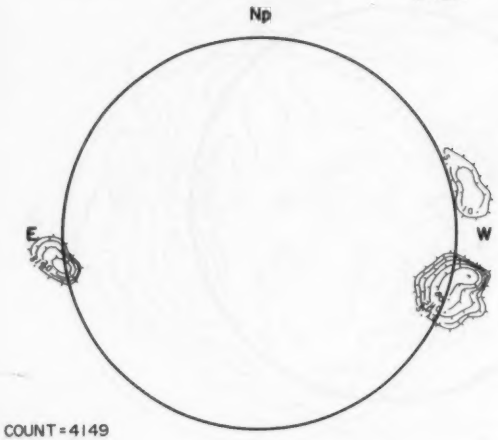
2030 UT
COUNT = 312518

47
Sep 73

SEPTEMBER 12, 1973 (P=23.53, B_o=7.23, L_o= 87.33)

NASA GSFC
OSO-7

X-RAY
8-16A



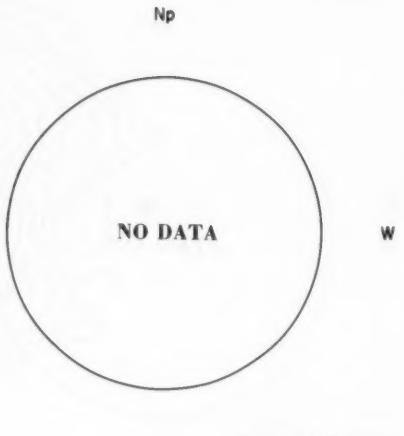
COUNT=4149
ROLL =26.1°
P-TH =0.58

2100 UT

Counts per 0.125 sec.

PROSPECT HILL
AFCRL

8.6 mm

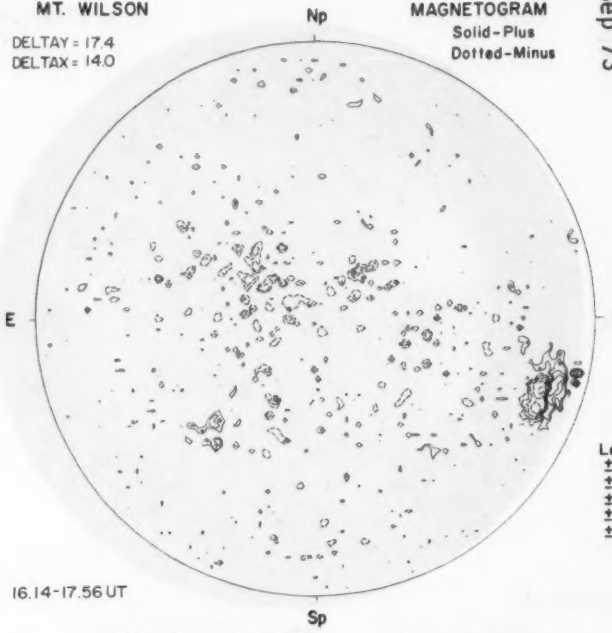


Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.4
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus

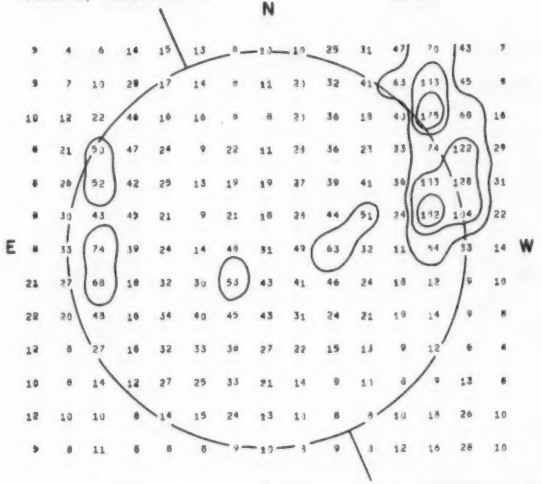


Levels
±5
±10
±20
±40
±80

16.14-17.56 UT

FLEURS, AUSTRALIA

21 cm

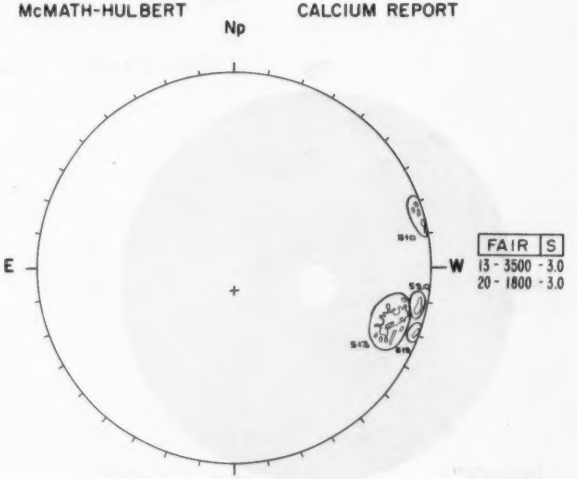


02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

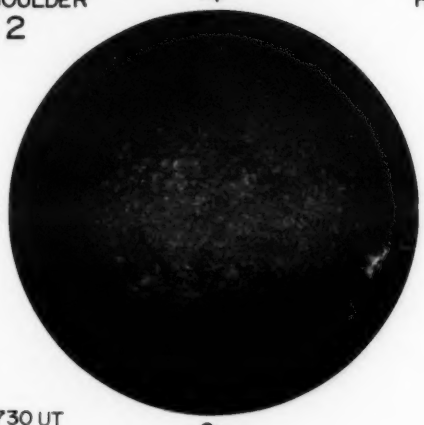
CALCIUM REPORT



1241 UT

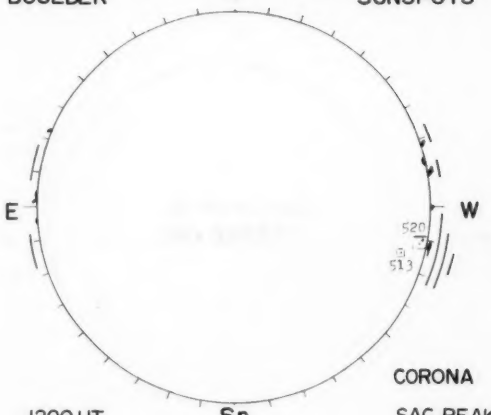
02-03 UT Resolution 3 Minutes of Arc Brightness Unit 1,700° K 1241 UT

BOULDER 12 Np Hα



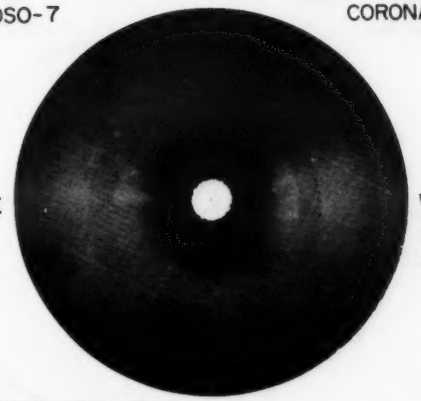
1730 UT Sp

BOULDER Np SUNSPOTS



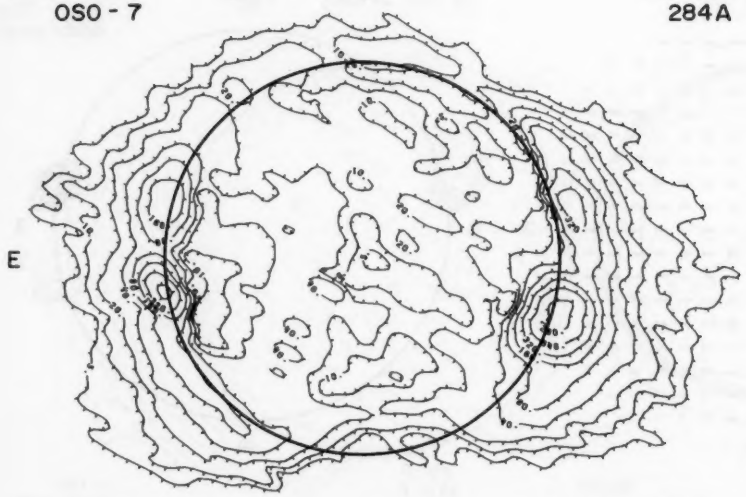
1200 UT Sp CORONA SAC PEAK

NRL OSO-7 Np WHITE-LIGHT CORONA



0337-0821 UT Sp

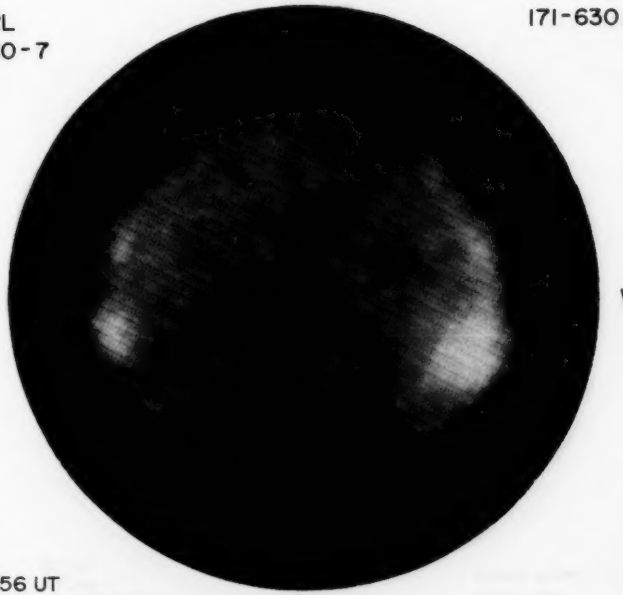
NASA GSFC OSO-7 Np FE XV 284A



COUNT = 56878
ROLL = 26.1°
P-TH = 0.58

2100 UT Sp

Np NRL OSO-7 171-630A



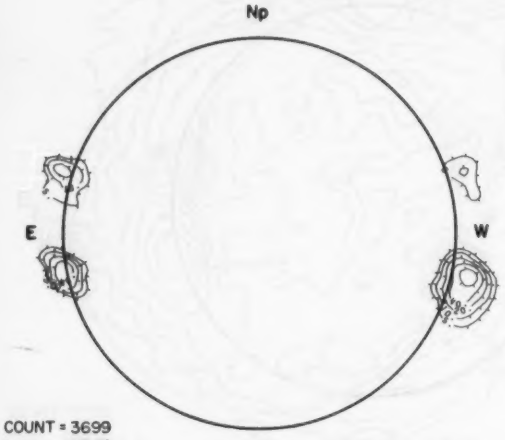
2056 UT
COUNT = 305943
Sp

49
Sep 73

SEPTEMBER 13, 1973 (P = 23.72, B_o = 7.23, L_o = 74.13)

NASA GSFC
OSO-7

X-RAY
8-16A



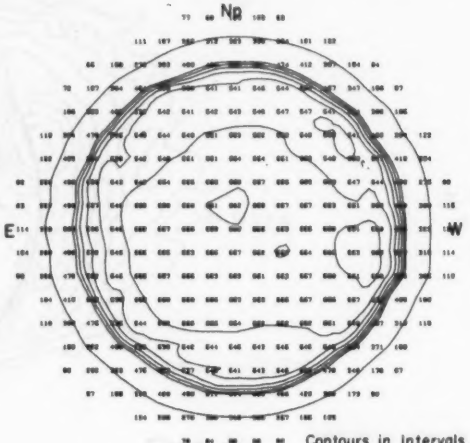
COUNT = 3699
ROLL = 25.8°
P-TH = 0.70

1950 UT

Counts per 0.125 sec.

PROSPECT HILL
AFCRL

8.6 mm



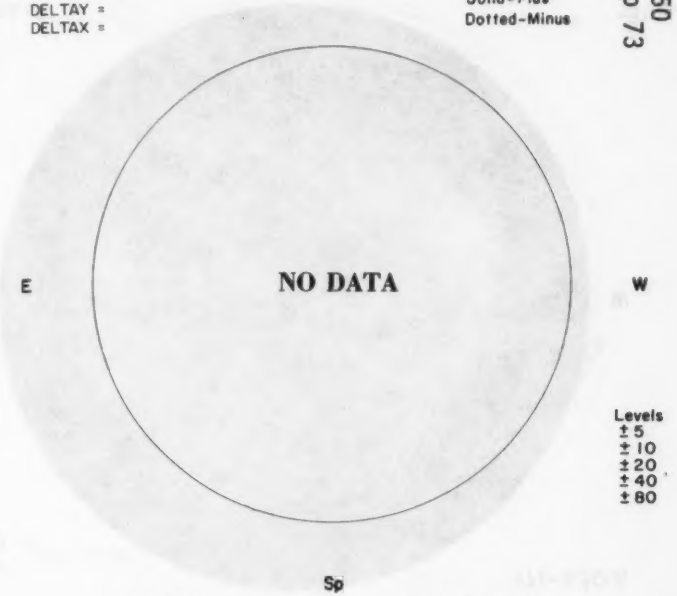
1335 UT

Contours in intervals of 200° K

MT. WILSON

DELTAY =
DELTAX =

MAGNETOGRAM
Solid-Plus
Dotted-Minus



Levels
±5
±10
±20
±40
±80

FLEURS, AUSTRALIA

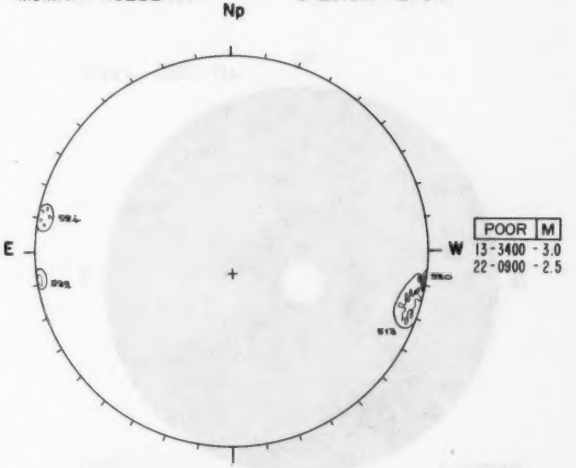
21 cm

02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



POOR	M
13-3400	- 3.0
22-0900	- 2.5

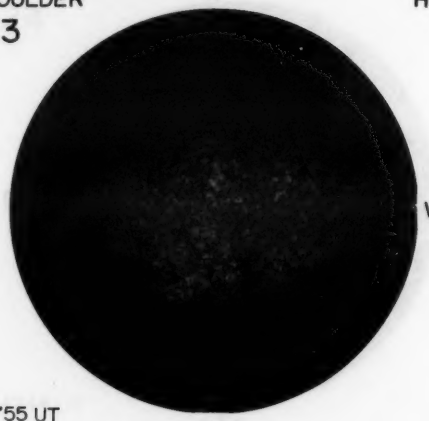
1550 UT

BOULDER

SUNSPOTS

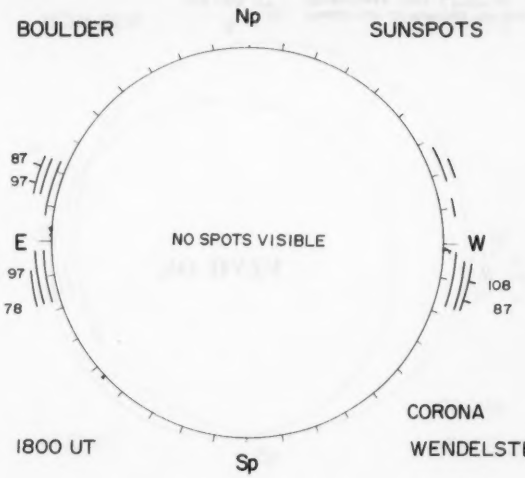
02-03 UT Brightness Unit 1,700° K

BOULDER
13



Hα
1755 UT

BOULDER



SUNSPOTS
1800 UT

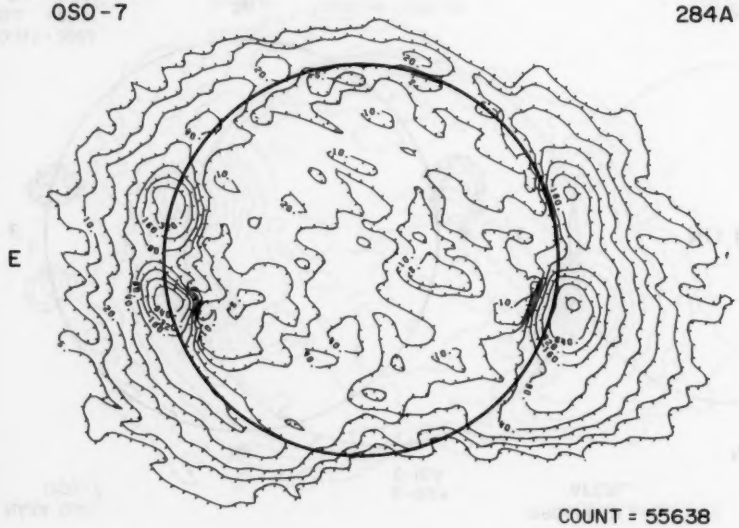
CORONA
WENDELSTEIN

NRL
OSO-7

WHITE-LIGHT
CORONA
0406-0848 UT

Np

NASA GSFC
OSO-7



FE XV
284A

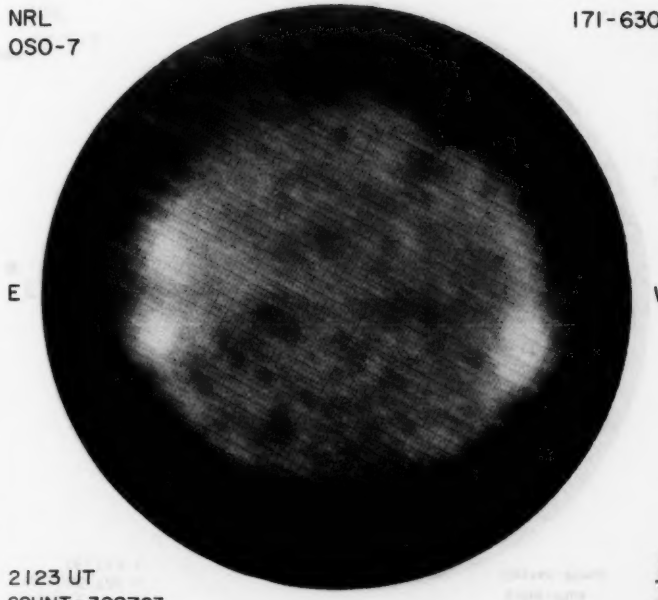
COUNT = 55638
ROLL = 25.8°
P-TH = 0.70

1950 UT

Np

NRL
OSO-7

171-630A



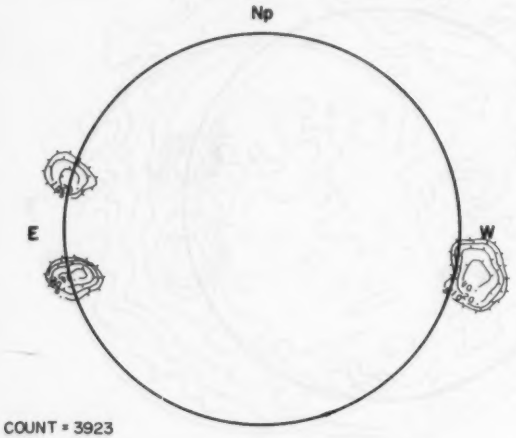
2123 UT
COUNT = 308763

51
Sep 73

SEPTEMBER 14, 1973 (P = 23.90, B_o = 7.21, L_o = 60.92)

NASA GSFC
OSO-7

X-RAY
8-16A



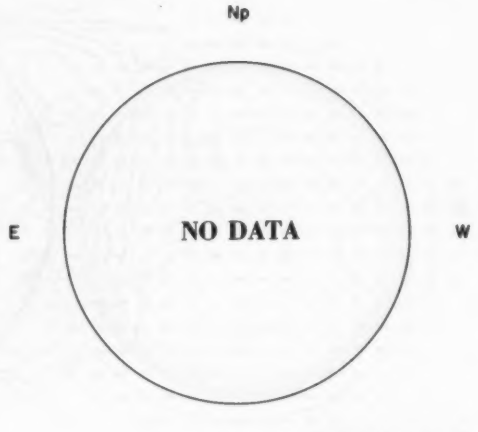
COUNT = 3923
ROLL = 25.3°
P-TH = 0.82

2018 UT

Counts per 0.125 sec.

PROSPECT HILL
AFCRL

8.6 mm



Contours in Intervals of 200° K

MT. WILSON

DELTAY =
DELTAX =

MAGNETOGRAM
Solid-Plus
Dotted-Minus

Levels
±5
±10
±20
±40
±80

FLEURS, AUSTRALIA

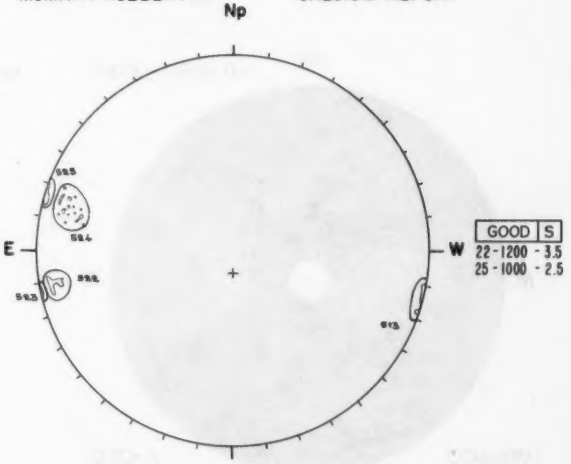
21 cm

02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



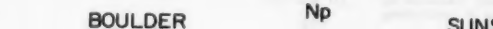
GOOD	S
22-1200	3.5
25-1000	2.5

1715 UT

BOULDER

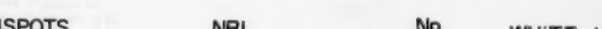
Hα

BOULDER



SUNSPOTS

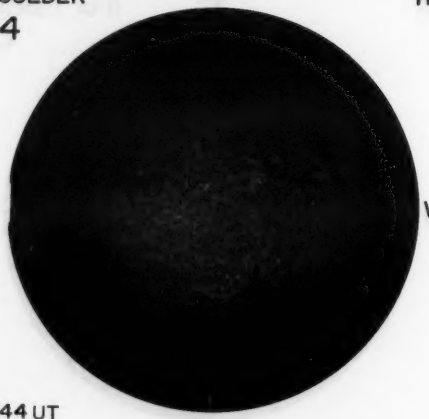
NRL



WHITE LIGHT

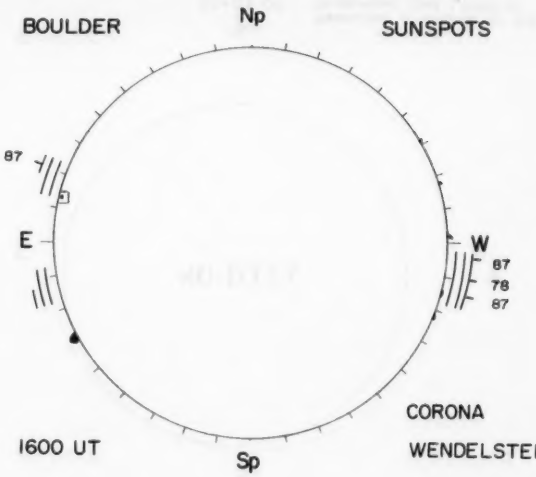
02-03 UT Brightness Unit 1,700° K 1715 UT

BOULDER
14



1744 UT

BOULDER



1600 UT

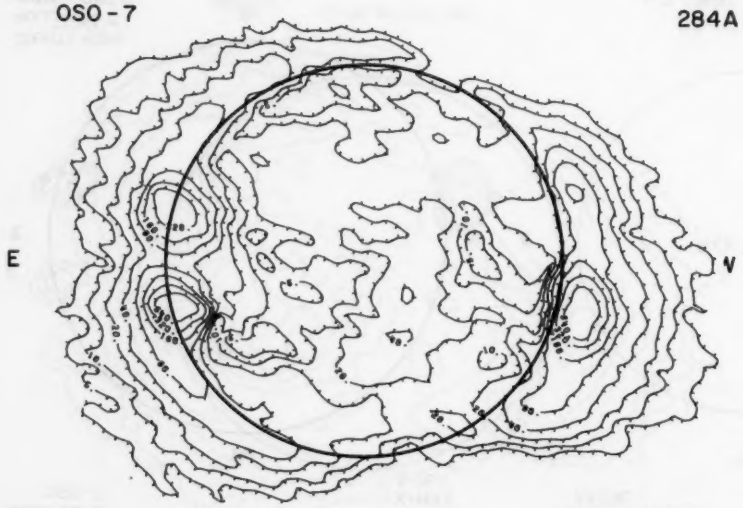
CORONA
WENDELSTEIN

NRL
OSO-7

0432 - 0737 UT

NASA GSFC
OSO-7

FE XV
284A



2016 UT

COUNT = 51243
ROLL = 25.3°
P-TH = 0.82

NRL
OSO-7

171-630A

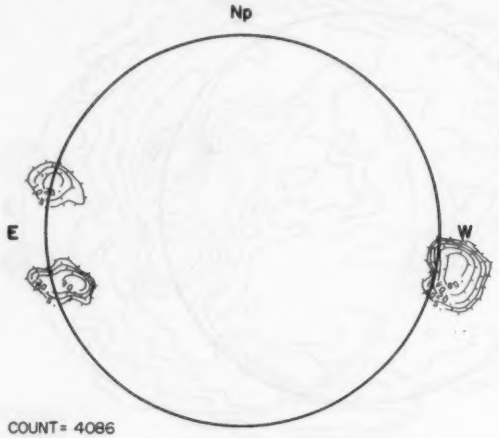
1838 UT
COUNT = ---

53
Sep 73

SEPTEMBER 15, 1973 (P = 24.08, B_o = 7.20, L_o = 47.72)

NASA GSFC
OSO-7

X-RAY
8-16A



COUNT = 4086
ROLL = 25.1°
P-TH = 0.87

0630 UT

Counts per 0.125 sec.

PROSPECT HILL
AFCRL

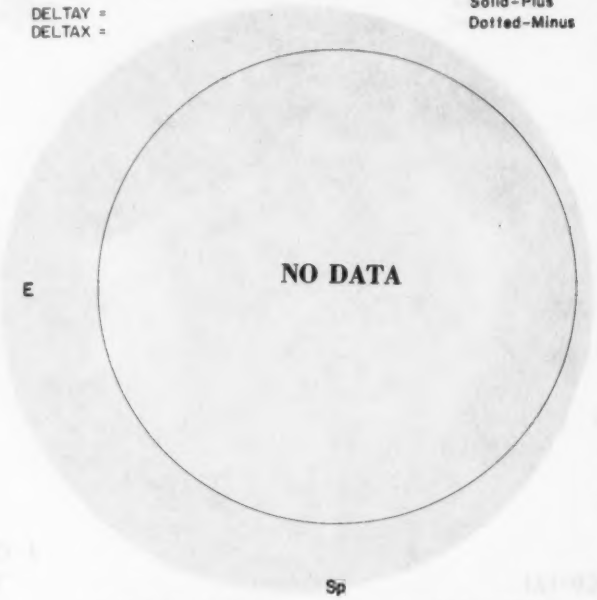
8.6 mm

Contours in Intervals of 200° K

MT. WILSON

DELTAY =
DELTAX =

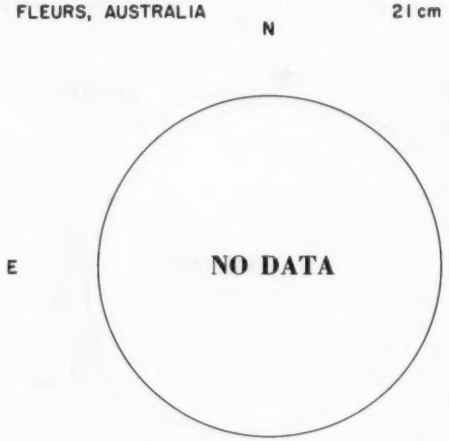
MAGNETOGRAM
Solid-Plus
Dotted-Minus



Levels
±5
±10
±20
±40
±80

FLEURS, AUSTRALIA

21 cm

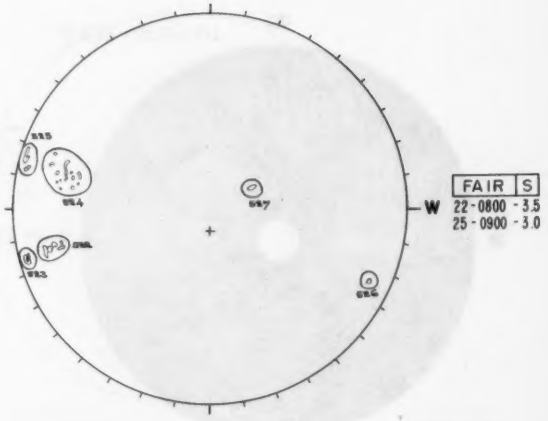


02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCULUM REPORT



FAIR	S
22 - 0800	- 3.5
25 - 0900	- 3.0

1250 UT

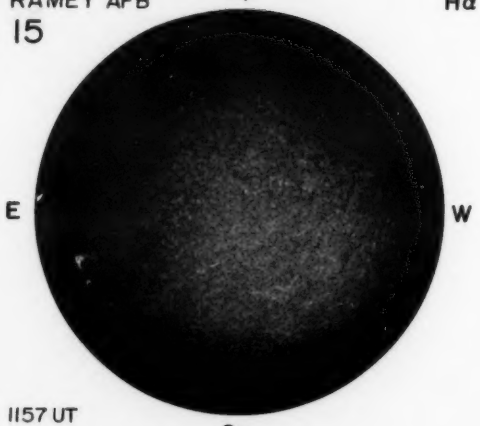
02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit I_s700° K

1250 UT

RAMEY AFB
15

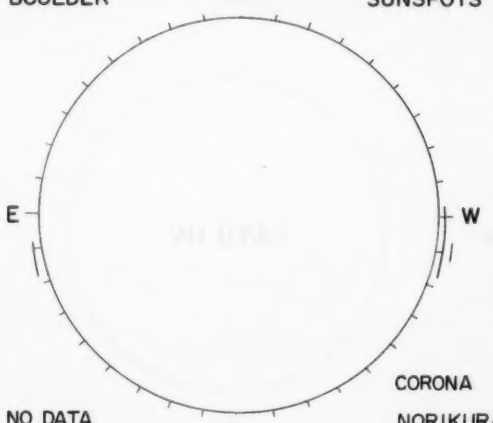
Hα



1157 UT

BOULDER

SUNSPOTS



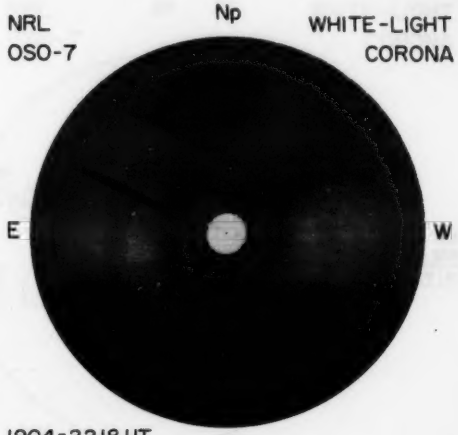
NO DATA

CORONA

NORIKURA

NRL
OSO-7

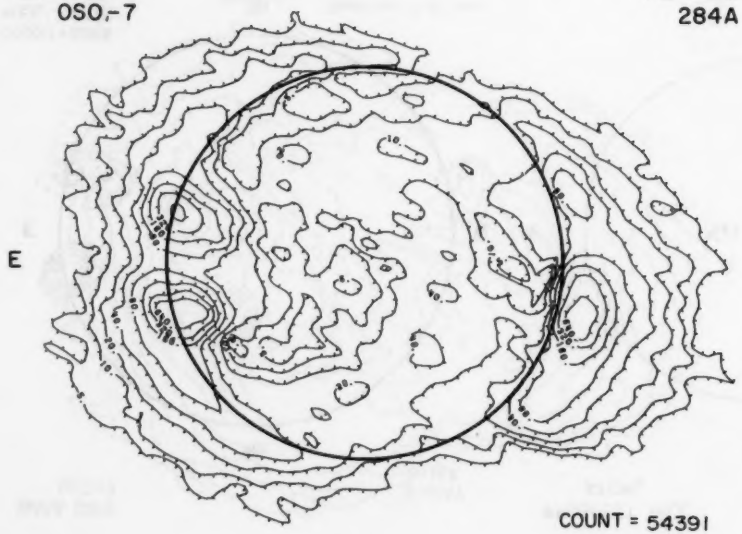
WHITE-LIGHT
CORONA



1904-2218 UT

NASA GSFC
OSO-7

FE XV
284A

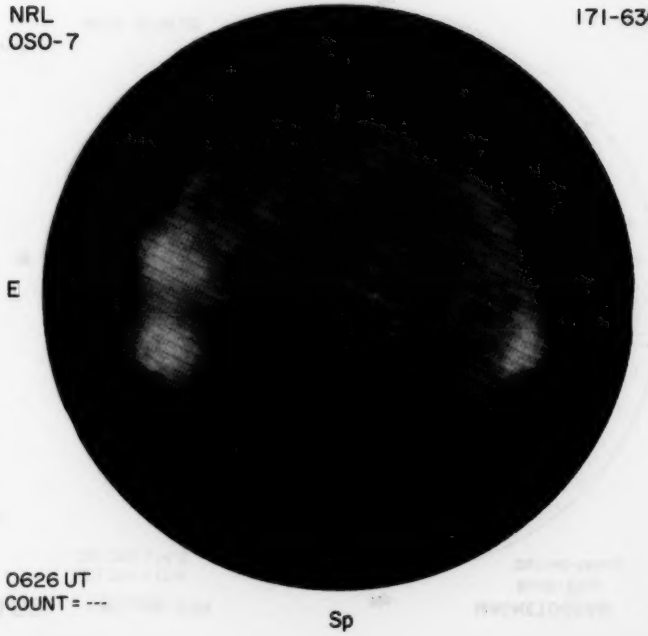


COUNT = 54391
ROLL = 25.1°
P-TH = 0.87

0630 UT

NRL
OSO-7

171-630A



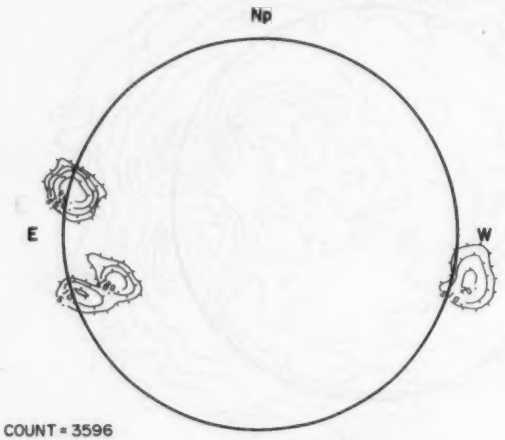
0626 UT
COUNT = ---

55
Sep 73

SEPTEMBER 16, 1973 (P = 24.25, B_o = 7.19, L_o = 34.52)

NASA GSFC
OSO-7

X-RAY
8-16A



COUNT = 3596
ROLL = 24.8°
P-TH = 0.98

0349 UT

Counts per 0.125 sec.

PROSPECT HILL
AFCRL

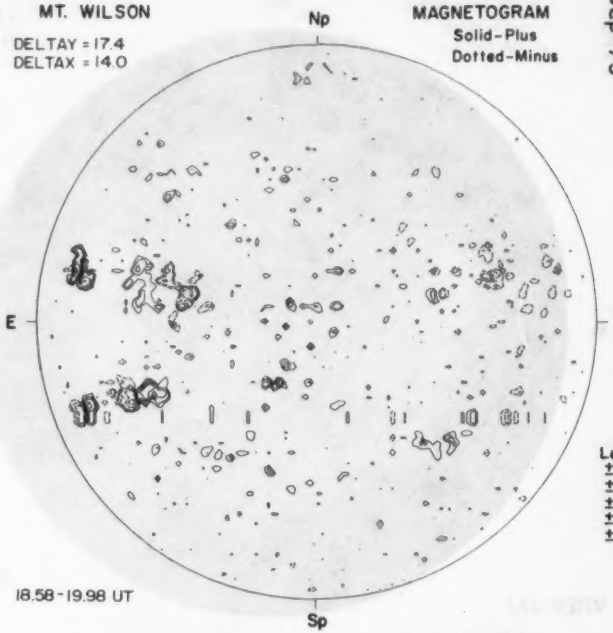
8.6 mm

Contours in intervals of 200° K

MT. WILSON

DELTAY = 17.4
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus

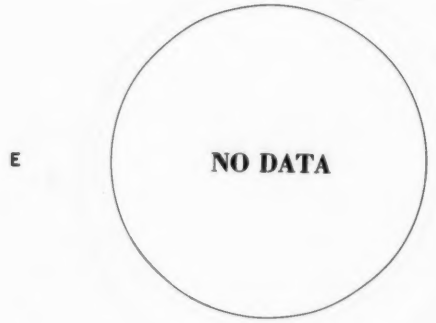


Levels
±5
±10
±20
±40
±80

18.58-19.98 UT

FLEURS, AUSTRALIA

21 cm

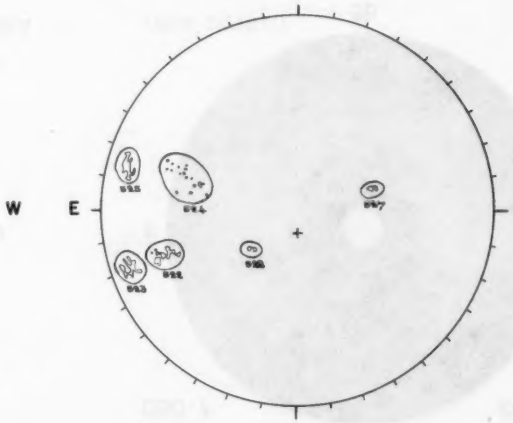


02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



FAIR | M
22 - 0800 - 3.5
25 - 1100 - 3.0

1310 UT

02-03 UT

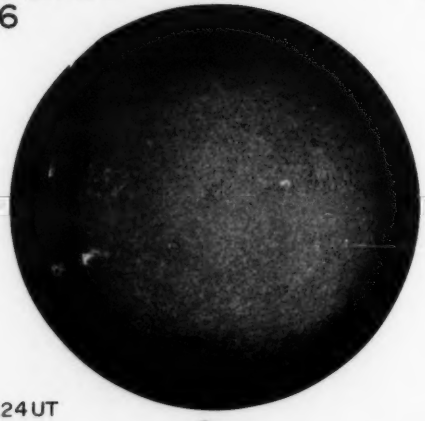
Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

1310 UT

RAMEY AFB
16

Np

Hα



E

W

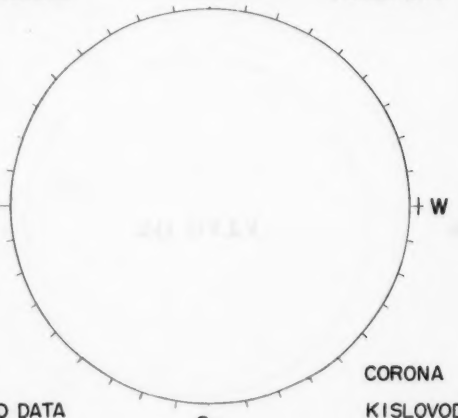
1124 UT

Sp

BOULDER

Np

SUNSPOTS



E

W

NO DATA

Sp

CORONA

KISLOVODSK

NRL
OSO-7

Np

WHITE-LIGHT
CORONA

E

W

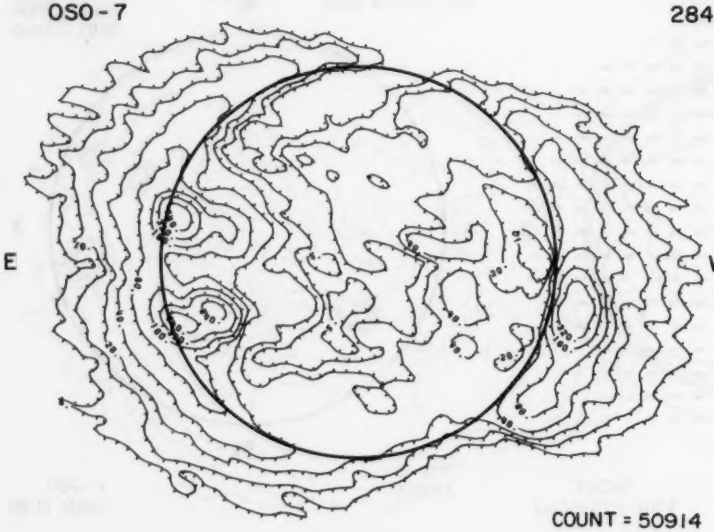
1931-2245 UT

Sp

Np

NASA GSFC
OSO-7

FE XV
284A



E

W

COUNT = 50914
ROLL = 24.8°
P-TH = 0.98

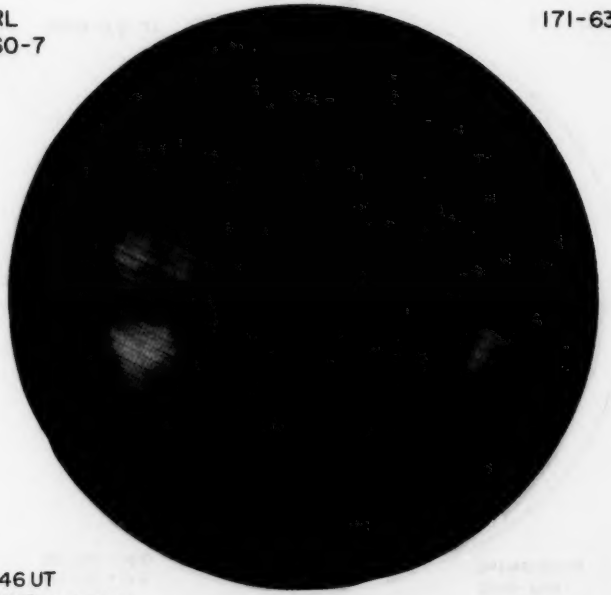
0349 UT

Sp

Np

NRL
OSO-7

171-630A



E

W

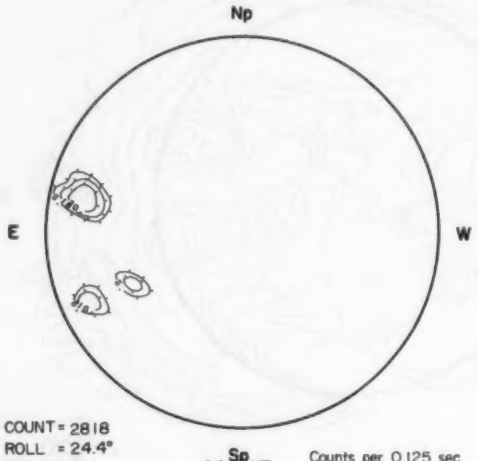
0346 UT
COUNT = 300993

Sp

SEPTEMBER 17, 1973 (P=24.41, B_o=7.17, L_o= 21.32)

NASA GSFC
OSO-7

X-RAY
8-16A



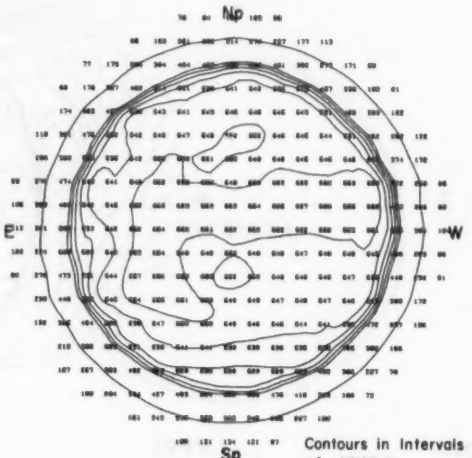
COUNT = 2818
ROLL = 24.4°
P-TH = 1.11

0415 UT

Counts per 0.125 sec.

PROSPECT HILL
AFCRL

8.6 mm



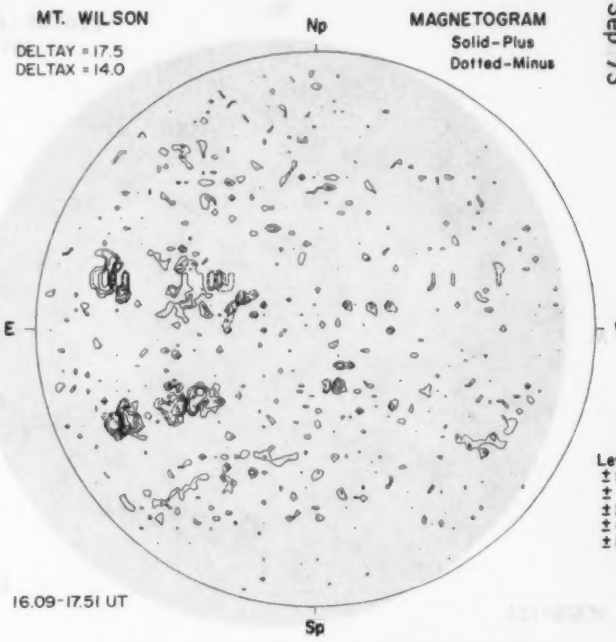
1338 UT

Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.5
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus



Levels
±5
±10
±20
±40
±80

16.09-17.51 UT

FLEURS, AUSTRALIA

21 cm

N

E

NO DATA

W

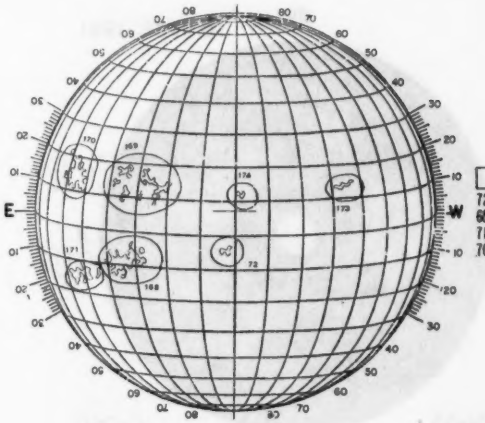
S

02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

CATANIA

CALCIUM REPORT



	FAIR	GD
72	0231	---
68	1918	---
71	1660	---
70	2193	---

0630 UT

02-03 UT
Resolution 3 Minutes of Arc
Brightness Unit 1,700° K
0630 UT

BOULDER
17
Np
Hα
E
W
1854UT
Sp

BOULDER
Np
SUNSPOTS
525
E
W
CORONA
2010 UT
NO DATA
Sp

NRL
OSO-7
Np
WHITE-LIGHT
CORONA
E
W
1821-2311 UT
Sp

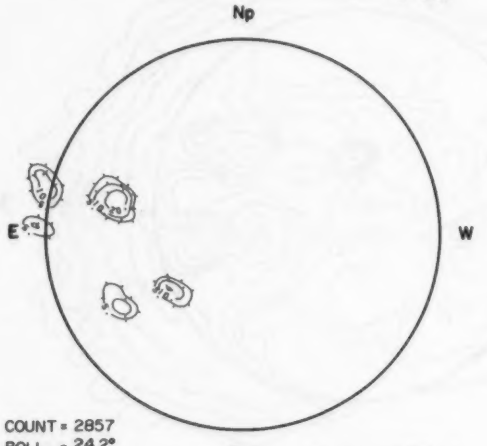
NASA GSFC
OSO-7
Np
FE XV
284A
E
W
0415 UT
Sp
COUNT = 48196
ROLL = 24.4°
P-TH = 1.11

NRL
OSO-7
Np
171-630A
E
W
0411 UT
COUNT = 327358
Sp

SEPTEMBER 18, 1973 (P=24.57, B_o=7.15, L_o= 8.12)

NASA GSFC
OSO-7

X-RAY
8-16A



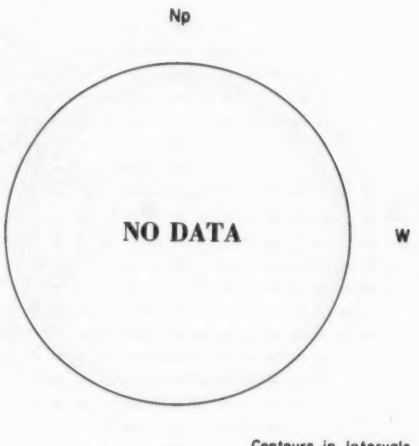
COUNT = 2857
ROLL = 24.2°
P-TH = 1.22

0302 UT

Counts per 0.125 sec.

PROSPECT HILL
AFCRL

8.6 mm

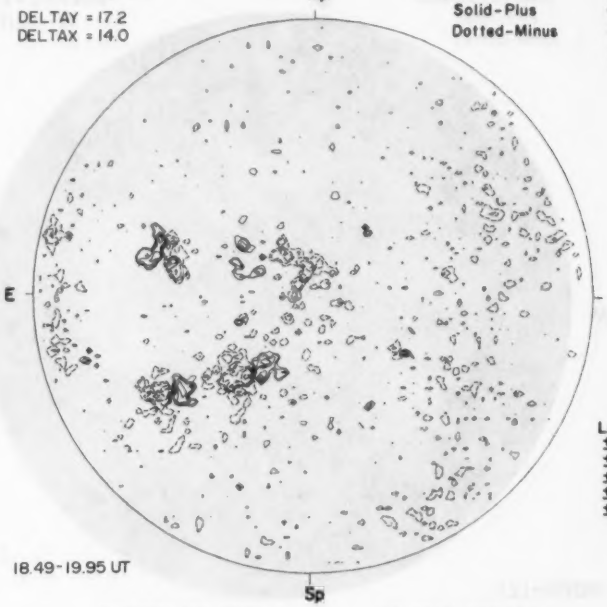


Contours in intervals of 200° K

MT. WILSON

DELTAY = 17.2
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus

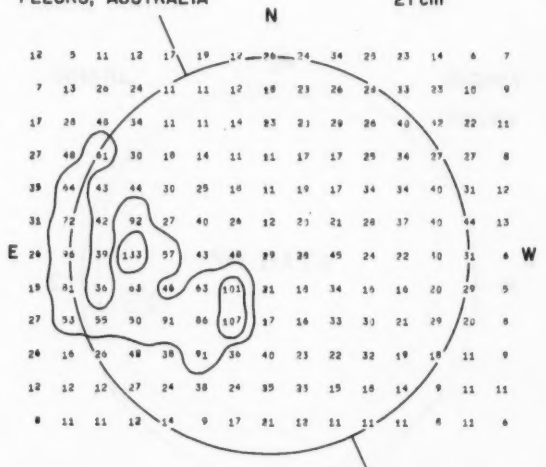


Levels
±5
±10
±20
±40
±80

18.49-19.95 UT

FLEURS, AUSTRALIA

21 cm

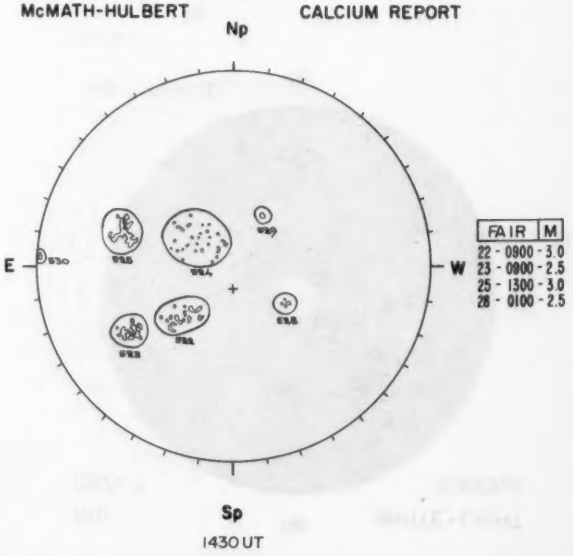


02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



FAIR	M
22 - 0900	3.0
23 - 0900	2.5
25 - 1300	3.0
28 - 0100	2.5

1430 UT

BOULDER

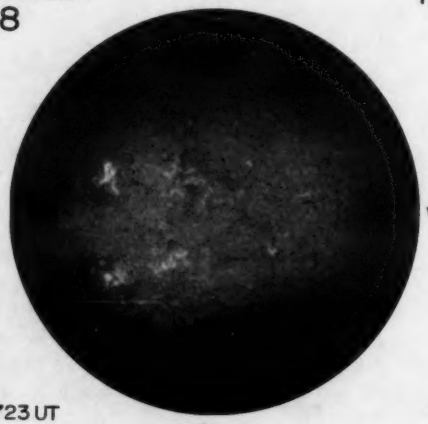
02-03 UT Brightness Unit 1,700° K

1430 UT

BOULDER
18

Np

Hα



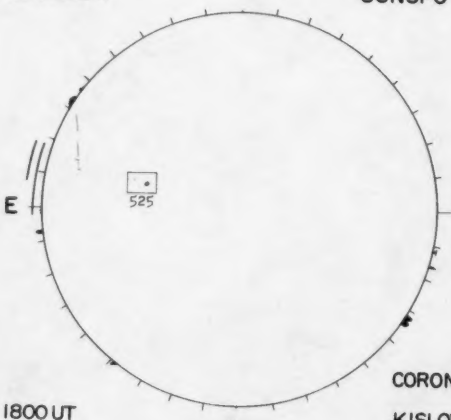
1723 UT

Sp

BOULDER

Np

SUNSPOTS



1800 UT

Sp

CORONA

KISLOVODSK

NRL
OSO-7

Np

WHITE-LIGHT
CORONA

2024-2730 UT

Sp

Np

NASA GSFC
OSO-7

FE XV
284A

0302 UT

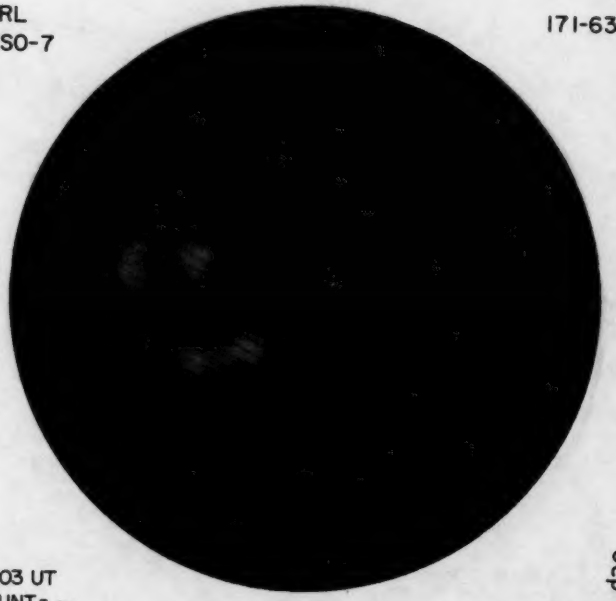
Sp

COUNT = 47972
ROLL = 24.2°
P-TH = 1.22

Np

NRL
OSO-7

171-630A



0303 UT
COUNT = ---

Sp

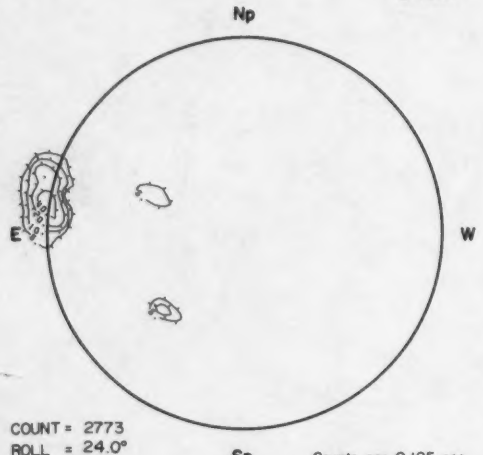
61
Sep 73

SEPTEMBER 19, 1973 (P=24.72, B_o=7.13, L_o=354.91)

62
Sep 73

NASA GSFC
OSO-7

X-RAY
8-16A



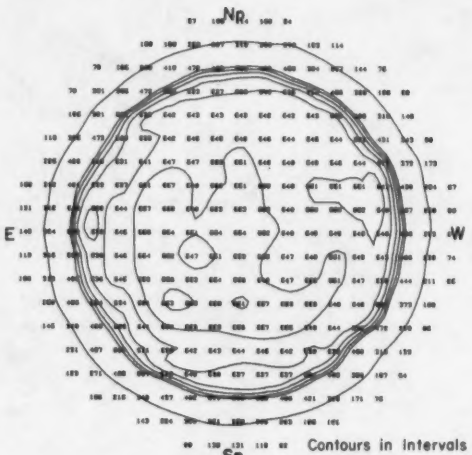
COUNT = 2773
ROLL = 24.0°
P-TH = 1.35

0504 UT

Counts per 0.125 sec.

PROSPECT HILL
AFCRL

8.6 mm

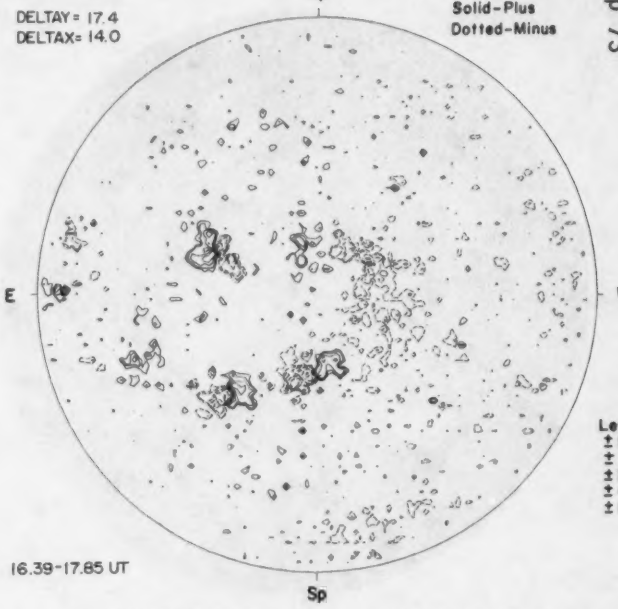


1423 UT

Contours in intervals of 200° K

MT. WILSON
DELTAY = 17.4
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus

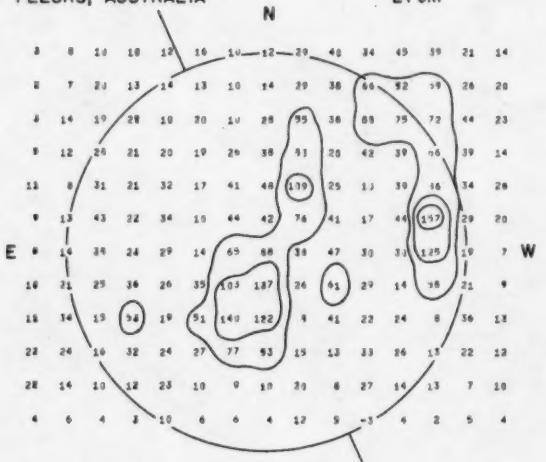


Levels
±5
±10
±20
±40
±80

16.39-17.85 UT

FLEURS, AUSTRALIA

21 cm

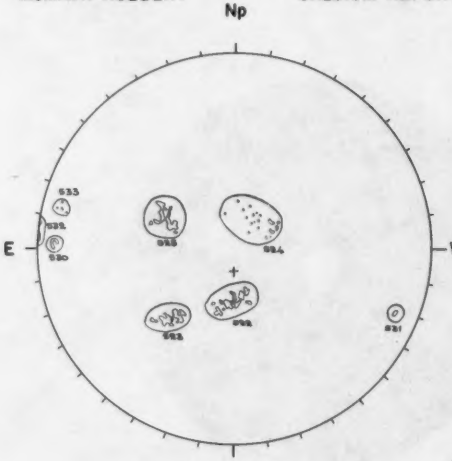


02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



GOOD	M
22	1000 - 2.5
23	1000 - 2.5
25	1200 - 3.0
30	0500 - 2.5

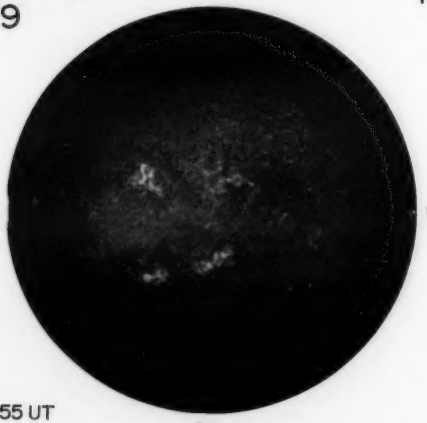
1535 UT

02-03 UT
Resolution 3 Minutes of Arc
Brightness Unit 1,700° K
1535 UT

BOULDER
19

Np

Hα



E

W

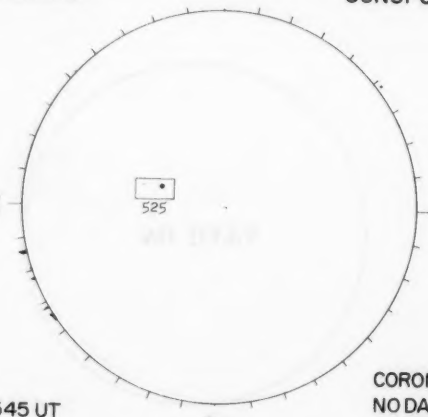
1755 UT

Sp

BOULDER

Np

SUNSPOTS



E

W

1545 UT

Sp

CORONA
NO DATA 250°-360°
LOMNICKY-STIT

NRL
OSO-7

Np

WHITE-LIGHT
CORONA

E

W

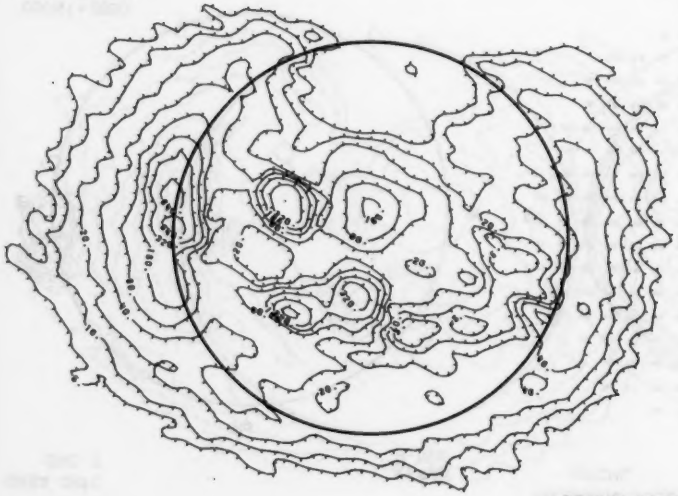
1737-2227 UT

Sp

Np

NASA GSFC
OSO-7

FE XV
284A



W

COUNT = 53838
ROLL = 24.0°
P-TH = 1.35

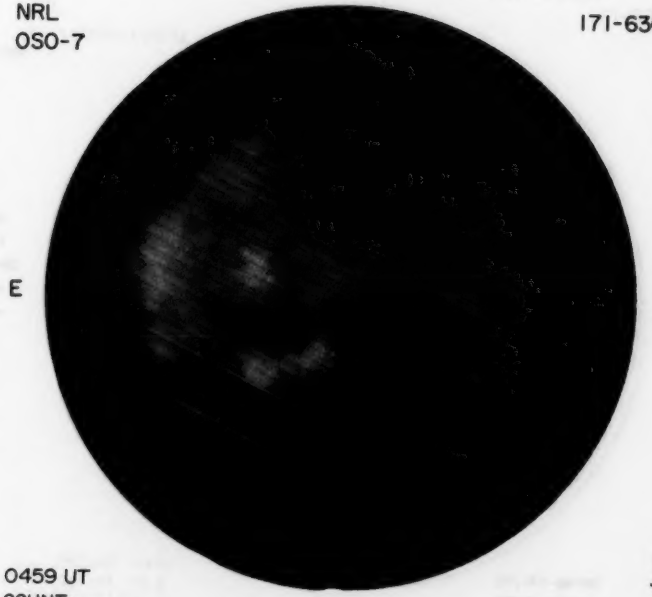
0504 UT

Sp

Np

NRL
OSO-7

171-630A



E

W

0459 UT
COUNT = ---

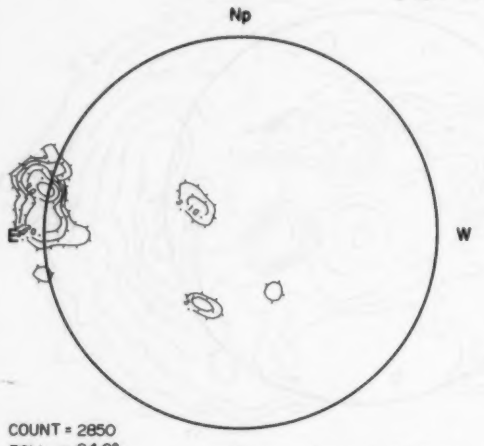
Sp

63
Sep 73

SEPTEMBER 20, 1973 (P=2486, B_o=7.10, L_o=341.71)

NASA GSFC
OSO-7

X-RAY
8-16A



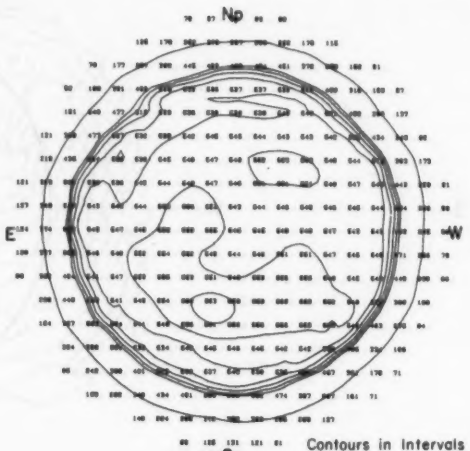
COUNT = 2850
ROLL = 24.0°
P-TH = 1.47

0357 UT

Counts per 0.125 sec.

PROSPECT HILL
AFCRL

8.6 mm



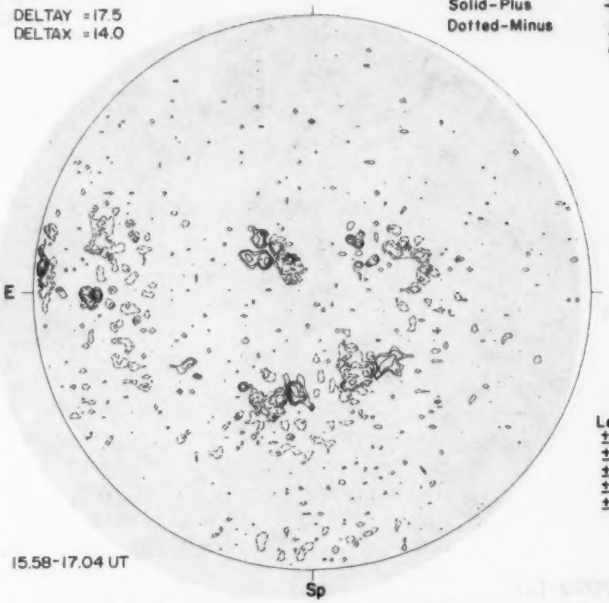
1539 UT

Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.5
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus



Levels
±5
±10
±20
±40
±80

15.58-17.04 UT

FLEURS, AUSTRALIA

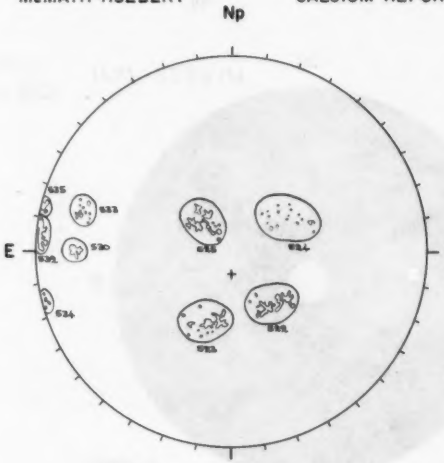
21 cm

02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



GOOD	M
22 - 1000	- 2.5
23 - 1100	- 3.0
25 - 1100	- 2.5
30 - 0600	- 3.0
32 - 2500	- 3.0
35 - 1200	- 3.0

1620 UT

02-03 UT Brightness Unit 1,700° K

1820 UT

BOULDER
20

Np

Hα

E

W

1803 UT

Sp

BOULDER

Np

SUNSPOTS

535

532A

530

525

E

W

2230 UT

Sp

CORONA

KISLOVODSK

NRL
OSO-7

Np

WHITE-LIGHT
CORONA

E

W

1803 - 2115 UT

Sp

Np

NASA GSFC
OSO-7

FE XV
284A

W

COUNT = 58668
ROLL = 24.0°
P-TH = 1.47

0357 UT

Sp

Np

NRL
OSO-7

171-630A

E

W

0354 UT
COUNT=316710

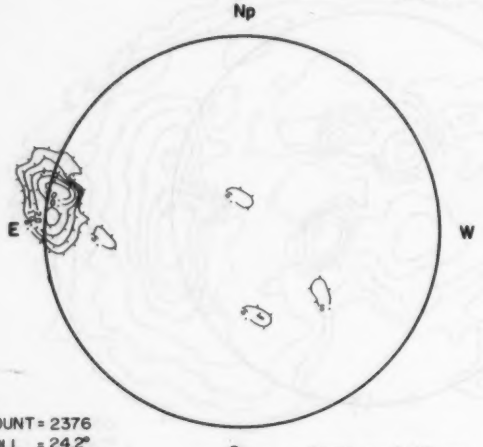
Sp

65
Sep 73

SEPTEMBER 21, 1973 (P=25.00, B_o=7.08, L_o=328.51)

NASA GSFC
OSO-7

X-RAY
8-16A



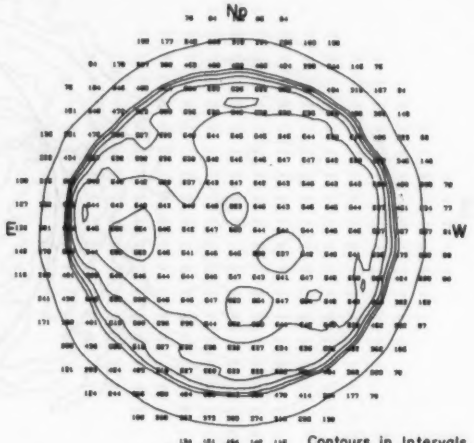
COUNT = 2376
ROLL = 24.2°
P-TH = 1.59

0420 UT

Counts per 0.125 sec.

PROSPECT HILL
AFCRL

8.6 mm



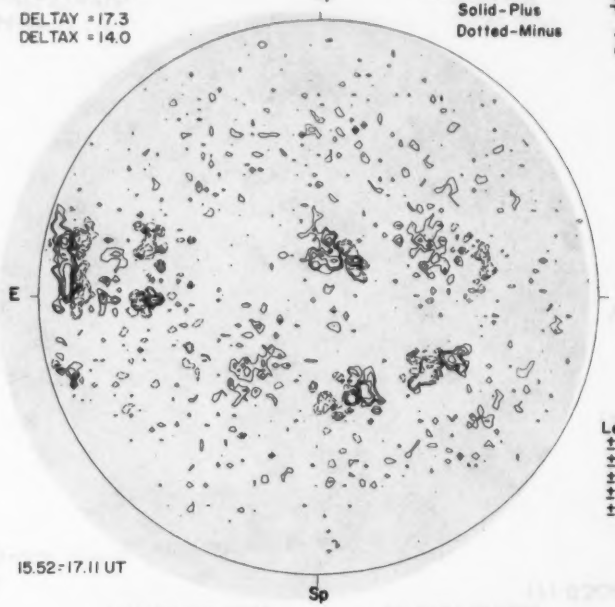
1500 UT

Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.3
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus



Levels
±5
±10
±20
±40
±80

15.52-17.11 UT

FLEURS, AUSTRALIA

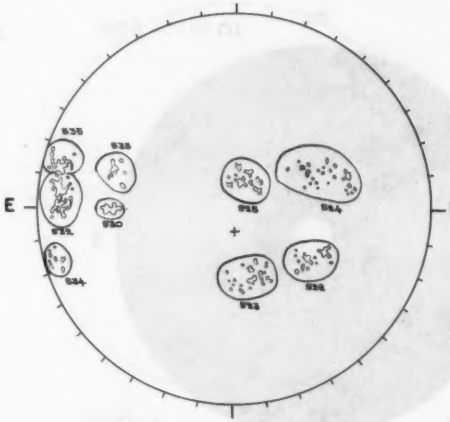
21 cm

02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



FAIR	B
22 - 1000 - 2.5	
23 - 1000 - 3.0	
25 - 1200 - 2.5	
30 - 0600 - 3.0	
32 - 2800 - 3.5	
35 - 1600 - 3.5	

1315 UT

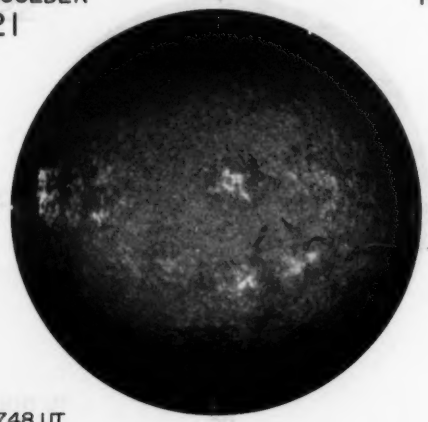
02-03 UT Brightness Unit 1,700° K

1315 UT

BOULDER
21

Np

Hα



E W

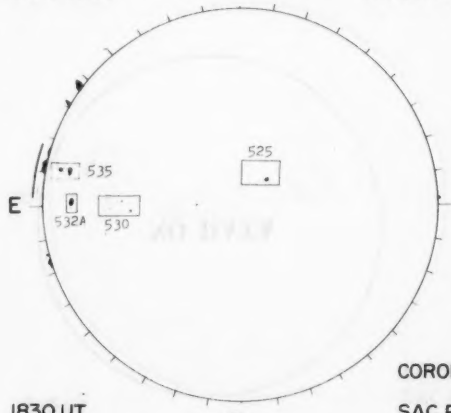
Sp

1748 UT

BOULDER

Np

SUNSPOTS



E W

Sp

1830 UT

CORONA

SAC PEAK

NRL
OSO-7

Np

WHITE-LIGHT
CORONA

E W

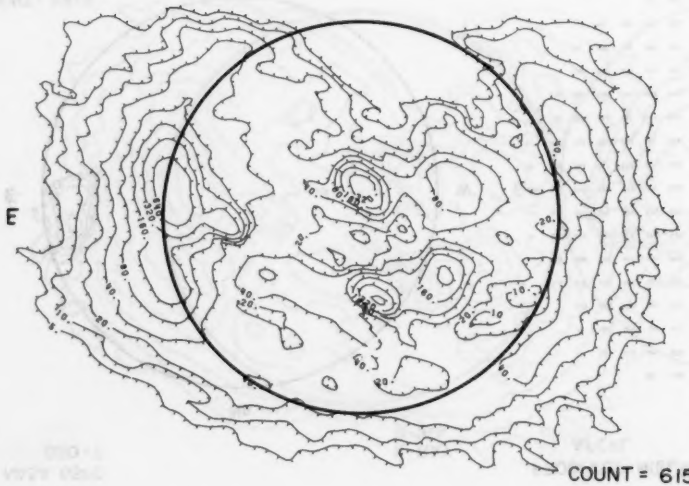
Sp

1653 - 2006 UT

Np

NASA GSFC
OSO-7

FE XV
284A



E W

COUNT = 61537
ROLL = 24.2°
P-TH = 1.59

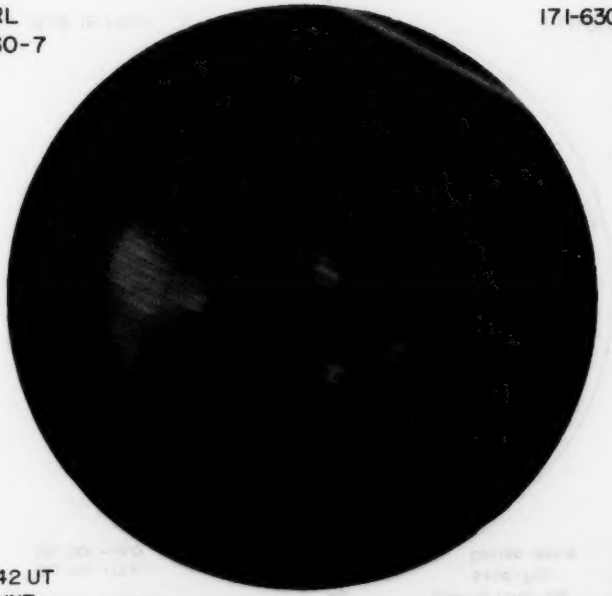
Sp

0420 UT

Np

NRL
OSO-7

171-630A



E W

Sp

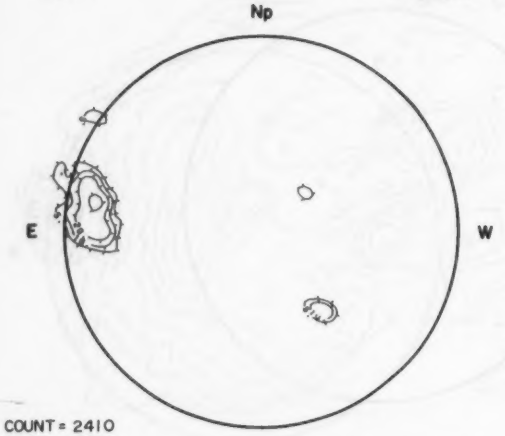
2142 UT
COUNT = ---

67
Sep 73

SEPTEMBER 22, 1973 (P=25.13, B_o=7.05, L_o=315.32)

NASA GSFC
OSO-7

X-RAY
8-16A



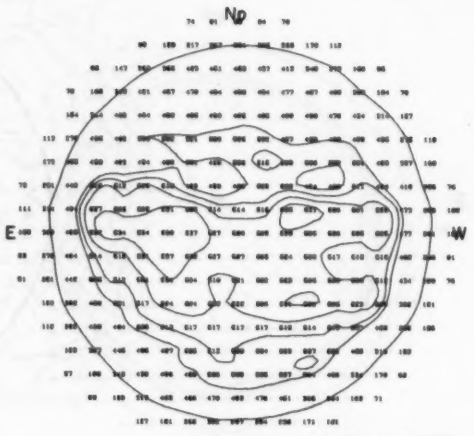
COUNT = 2410
ROLL = 24.5°
P-TH = 1.71

0314 UT

Counts per 0.125 sec.

PROSPECT HILL
AFCRL

8.6 mm



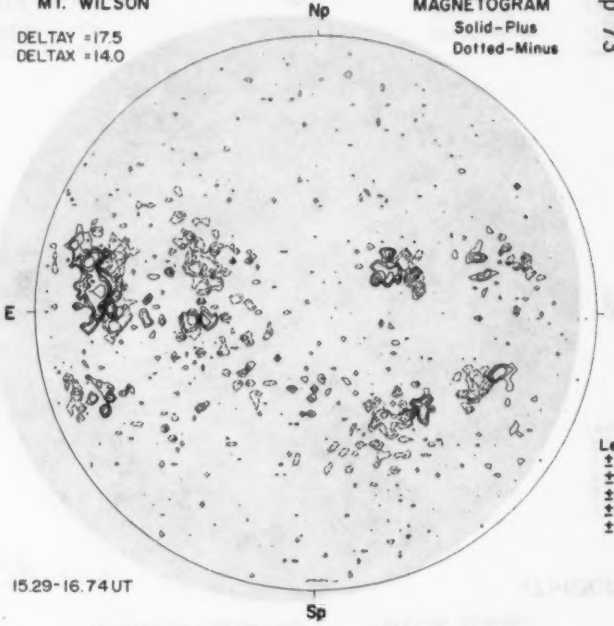
1456 UT

Contours in intervals of 200° K

MT. WILSON

DELTAY = 17.5
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus



Levels
±5
±10
±20
±40
±80

15.29-16.74 UT

FLEURS, AUSTRALIA

21 cm

N

E

NO DATA

W

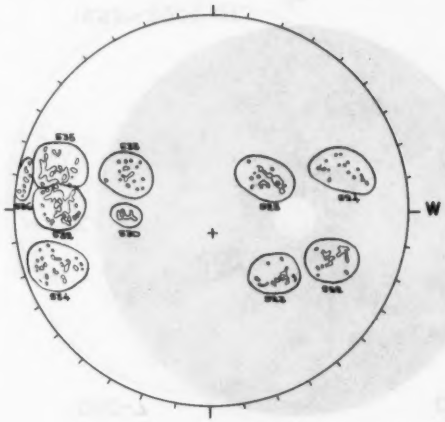
S

02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



FAIR	S
23 - 1000	- 2.5
30 - 0500	- 2.5
32 - 2800	- 3.0
34 - 1200	- 2.5
35 - 2100	- 3.5

1445 UT

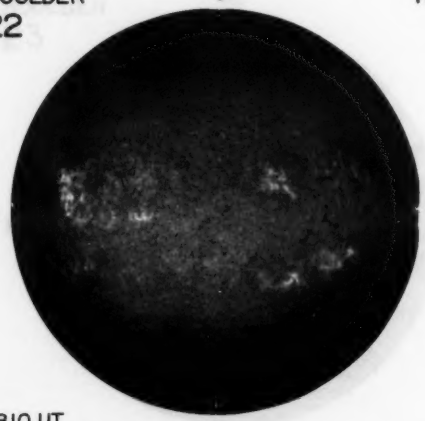
02-03 UT Brightness Unit 1,700° K

1445 UT

BOULDER
22

Np

Hα



E

W

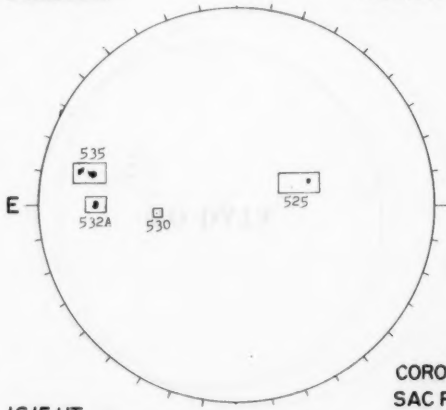
1810 UT

Sp

BOULDER

Np

SUNSPOTS



E

W

1615 UT

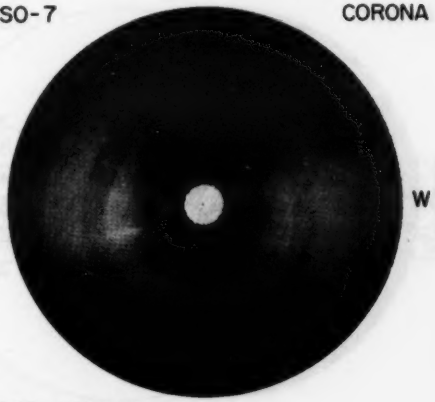
Sp

CORONA
SAC PEAK
NO DATA W. LIMB

NRL
OSO-7

Np

WHITE-LIGHT
CORONA



E

W

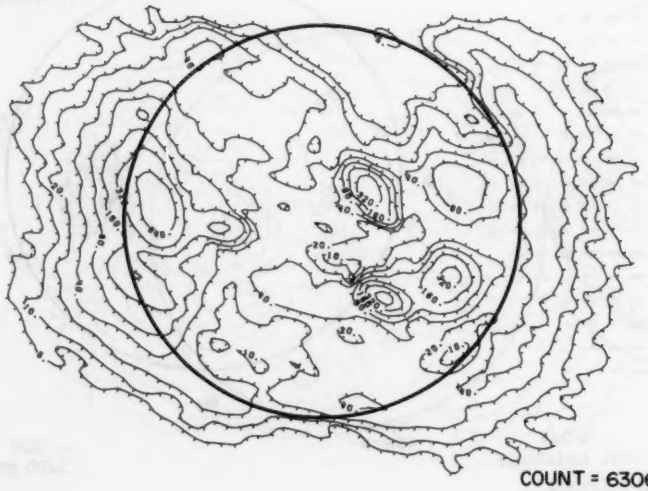
1543 - 2032 UT

Sp

Np

NASA GSFC
OSO-7

FE XV
284A



E

W

COUNT = 63065
ROLL = 24.5°
P-TH = 1.71

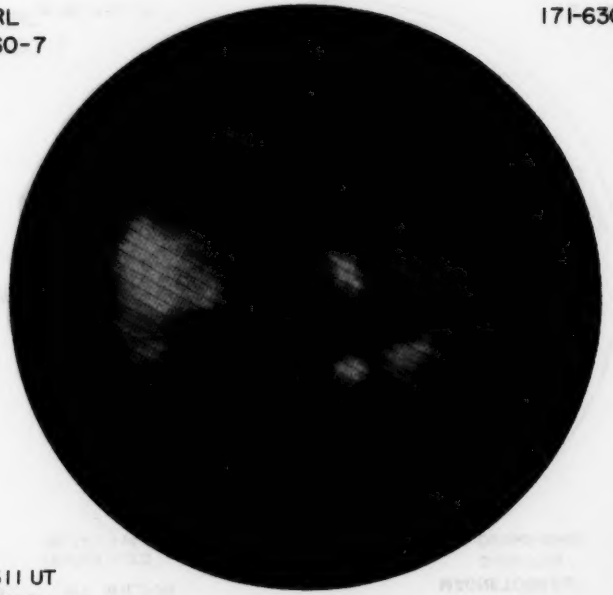
0314 UT

Sp

Np

NRL
OSO-7

171-630A



E

W

0311 UT
COUNT = ---

Sp

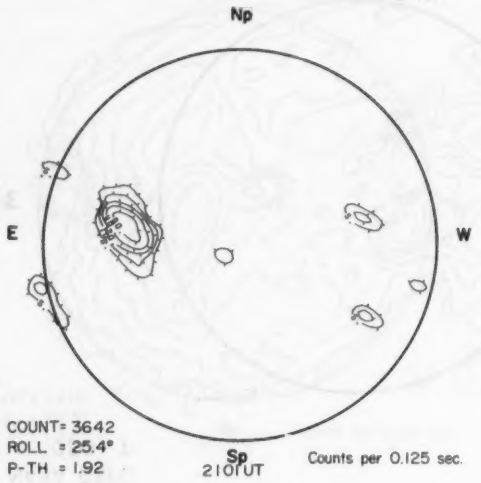
69
Sep 73

SEPTEMBER 23, 1973 (P=25.26, B_o=7.02, L_o=302.12)

70 Sep 73

NASA GSFC
OSO-7

X-RAY
8-16A



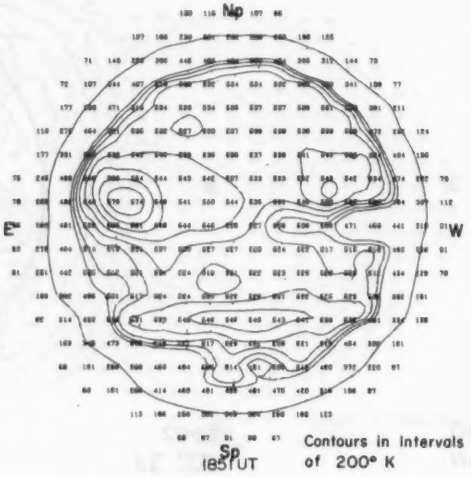
COUNT= 3642
ROLL. = 25.4°
P-TH = 1.92

210 UT

Counts per 0.125 sec.

PROSPECT HILL
AFCRL

8.6 mm



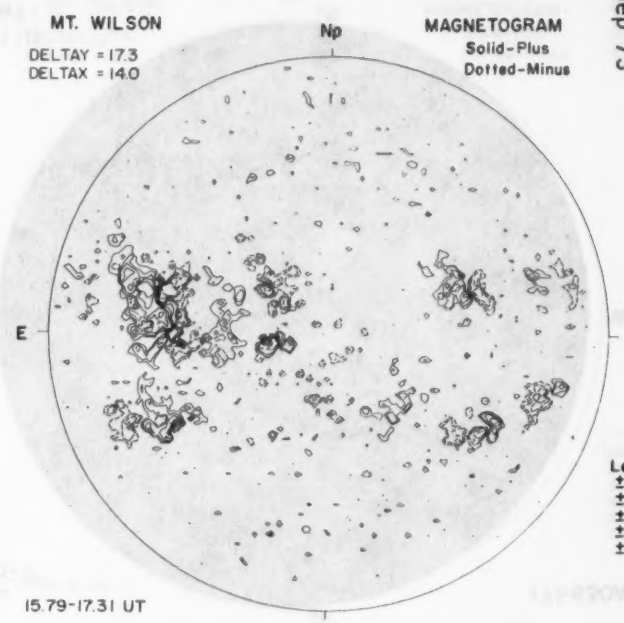
185 UT

Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.3
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus



Levels
±5
±10
±20
±40
±80

15.79-17.31 UT

FLEURS, AUSTRALIA

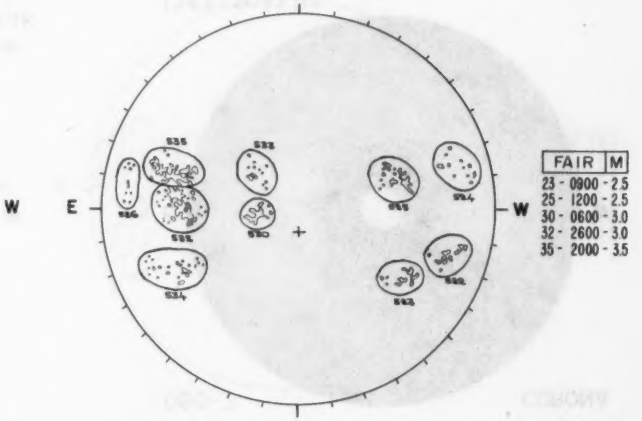
21 cm

02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



FAIR	M
23 - 0900 - 2.5	
25 - 1200 - 2.5	
30 - 0600 - 3.0	
32 - 2600 - 3.0	
35 - 2000 - 3.5	

1345 UT

02-03 UT

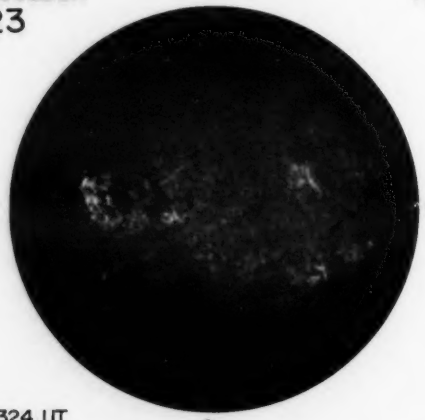
Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

1345 UT

BOULDER
23

Np

H α



E

W

1324 UT

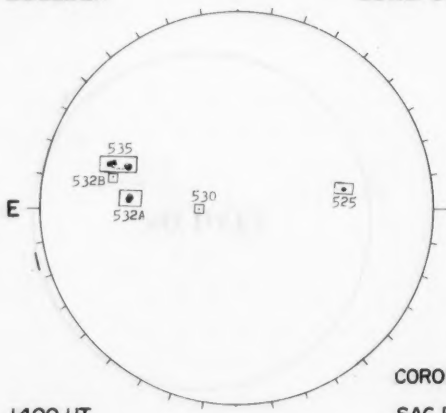
Sp

Np

BOULDER

Np

SUNSPOTS



E

W

1400 UT

Sp

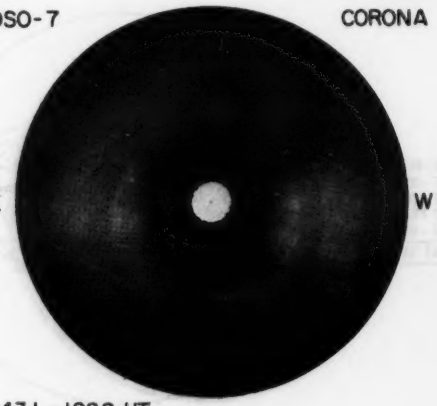
CORONA

SAC PEAK

NRL
OSO-7

Np

WHITE-LIGHT
CORONA



E

W

1431 - 1922 UT

Sp

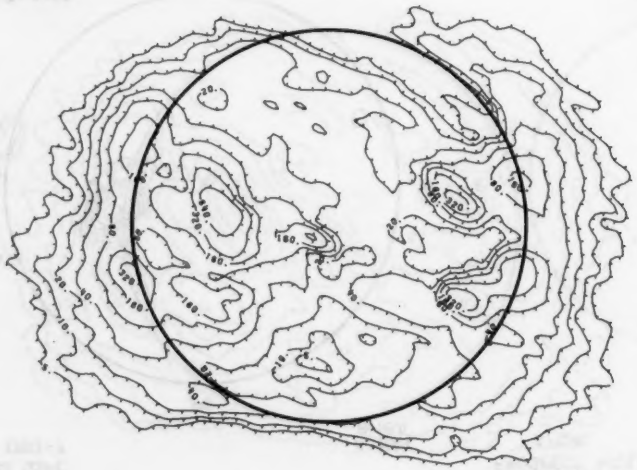
Np

NASA GSFC
OSO-7

FE XV
284A

NRL
OSO-7

171-630A



E

W

2101 UT

Sp

COUNT = 61997
ROLL = 25.4°
P-TH = 1.92

E

NO DATA

W

COUNT =

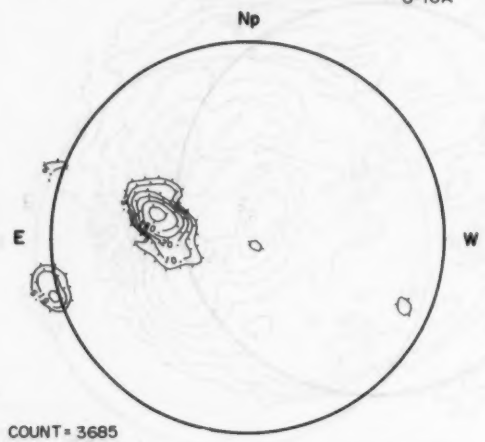
Sp

71
Sep 73

SEPTEMBER 24, 1973 (P=25.38, B_o=6.99, L_o=288.92)

NASA GSFC
OSO-7

X-RAY
8-16A



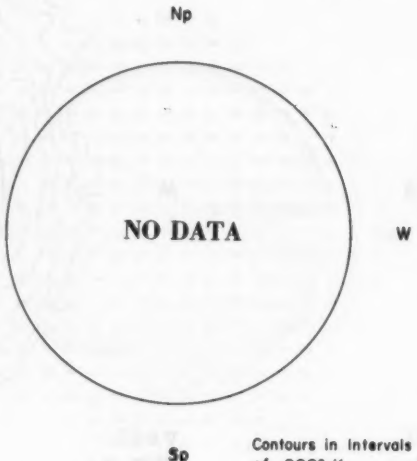
COUNT = 3685
ROLL = 25.4°
P-TH = 2.00

1323 UT

Counts per 0.125 sec.

PROSPECT HILL
AFCRL

8.6 mm

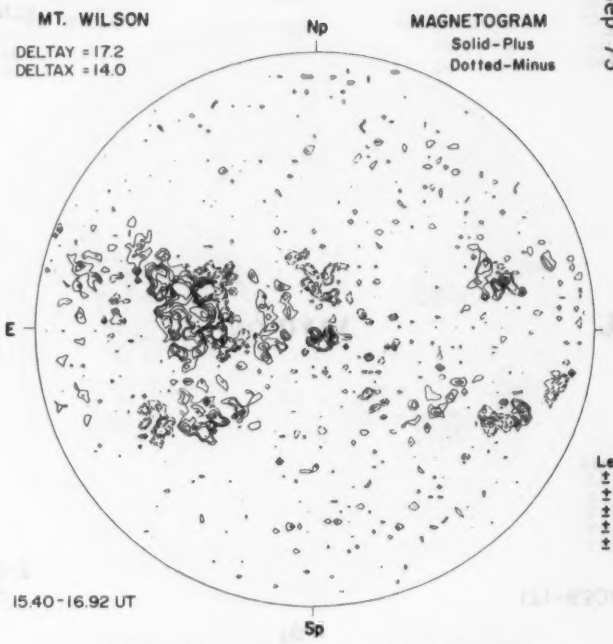


Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.2
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus

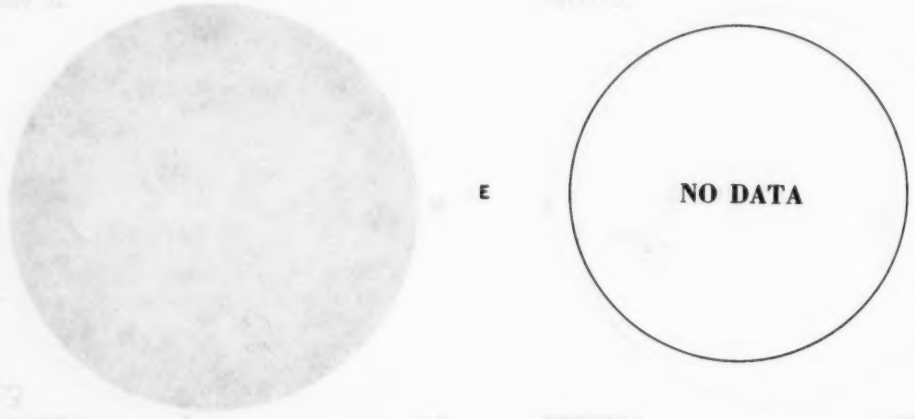


Levels
±5
±10
±20
±40
±80

15.40-16.92 UT

FLEURS, AUSTRALIA

21 cm

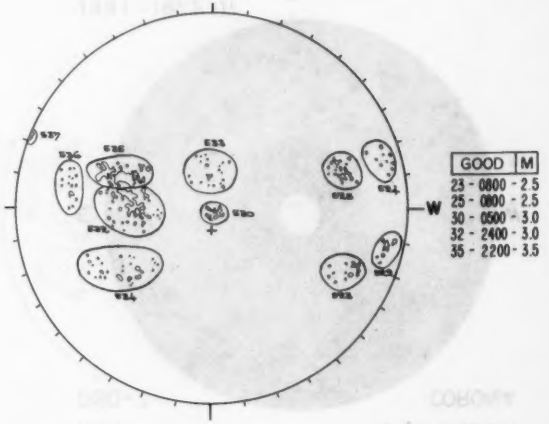


02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



1345 UT

02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

1345 UT

BOULDER
24

Np

Hα

E

W

1501 UT

Sp

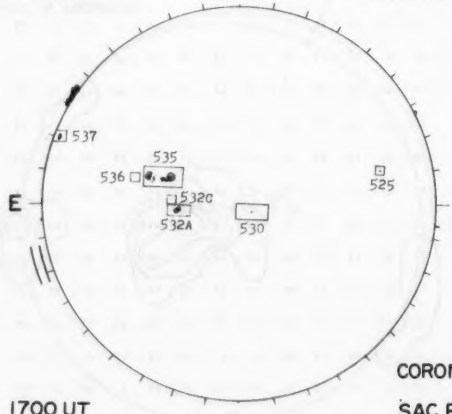
Np

NASA GSFC
OSO - 7

BOULDER

Np

SUNSPOTS



E

W

CORONA

1700 UT

Sp

SAC PEAK

FE XV
284A

NRL
OSO-7

NRL
OSO-7

Np

WHITE-LIGHT
CORONA

E

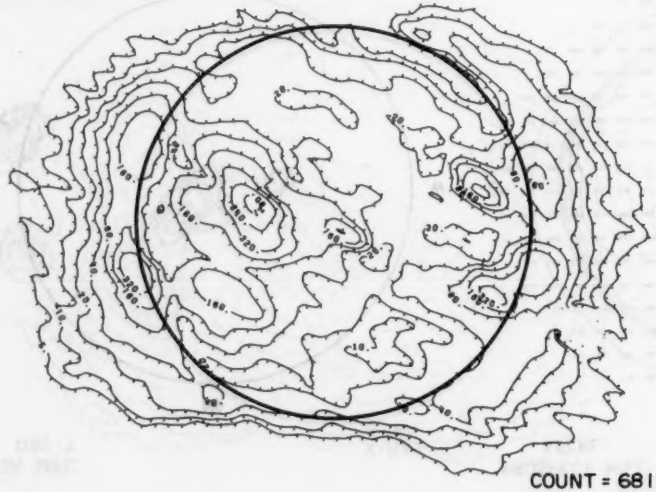
W

1456 - 1947 UT

Sp

Np

171-630A



E

W

COUNT = 68193
ROLL = 25.4°
P-TH = 2.00

1323 UT

Sp

E

NO DATA

W

COUNT =

Sp

73
Sep 73

SEPTEMBER 25, 1973 (P=25.49, B_o=695, L_o=275.72)

MT. WILSON
DELTAY =
DELTAX=

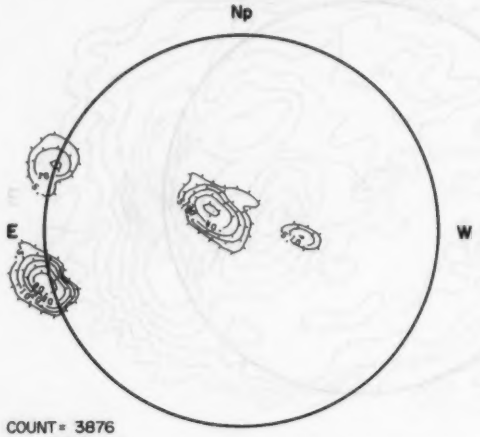
Np

MAGNETOGRAM
Solid-Plus
Dotted-Minus

74 Sep 73

NASA GSFC
OSO-7

X-RAY
8-16A



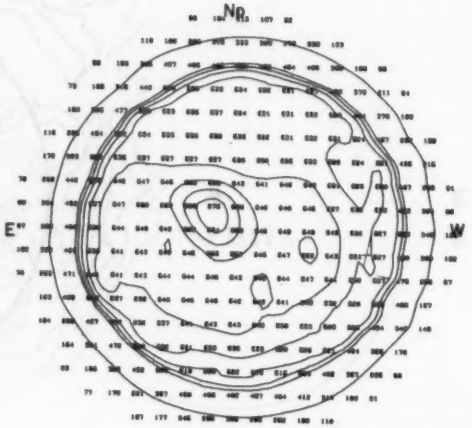
COUNT= 3876
ROLL = 22.7°
P-TH = 2.15

2016 UT

Counts per 0.125 sec.

PROSPECT HILL
AFCRL

8.6 mm



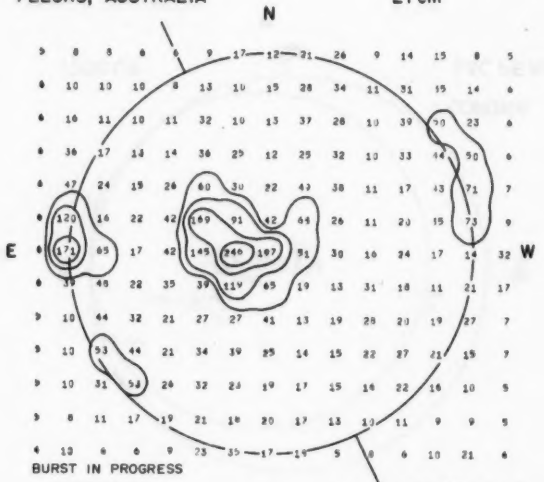
2016 UT

Contours in Intervals of 200° K

Levels
±5
±10
±20
±40
±80

FLEURS, AUSTRALIA

21 cm



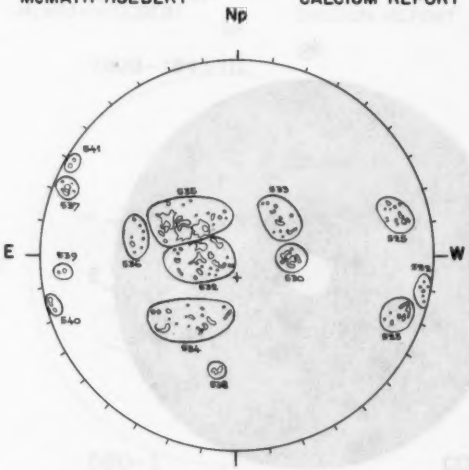
BURST IN PROGRESS

02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



GOOD	S
23 - 0800	- 2.5
25 - 0900	- 2.5
30 - 0500	- 2.5
32 - 2100	- 3.0
35 - 2500	- 3.0
38 - 0300	- 2.5
40 - 0700	- 2.5

1450 UT

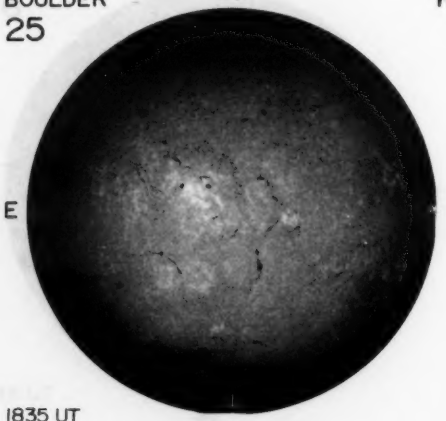
02-03 UT Brightness Unit 1,700° K

1450 UT

BOULDER
25

Np

Hα



E

W

Sp

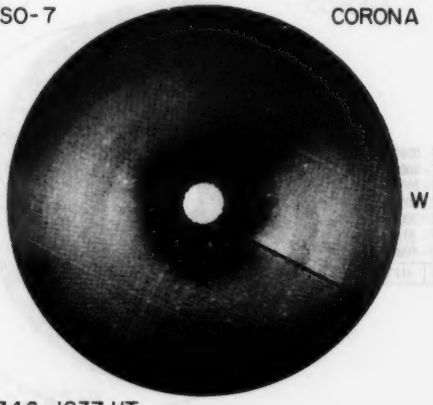
1835 UT

NO DATA

NRL
OSO-7

Np

WHITE - LIGHT
CORONA



E

W

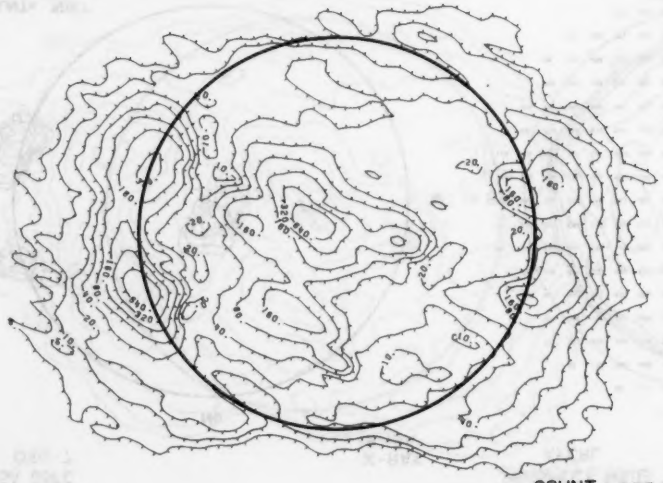
1346-1837 UT

Sp

Np

NASA GSFC
OSO-7

FE XV
284A



E

W

COUNT = 67544
ROLL = 22.7°
P-TH = 2.15

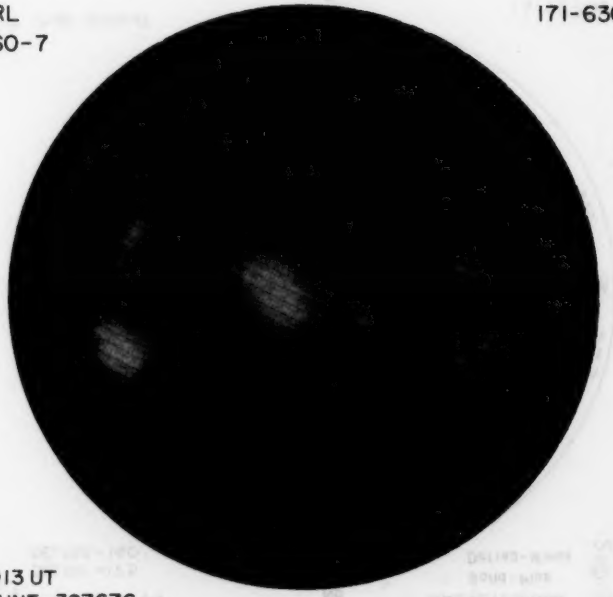
2016 UT

Sp

Np

NRL
OSO-7

171-630A



E

W

2013 UT
COUNT = 327676

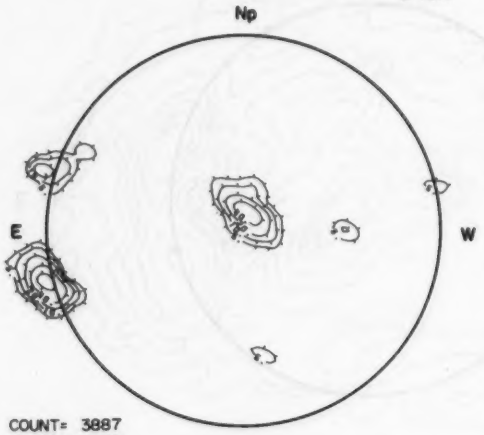
Sp

75
Sep 73

SEPTEMBER 26, 1973 (P=25.59, B_o=6.92, L_o=262.52)

NASA GSFC
OSO-7

X-RAY
8-16A



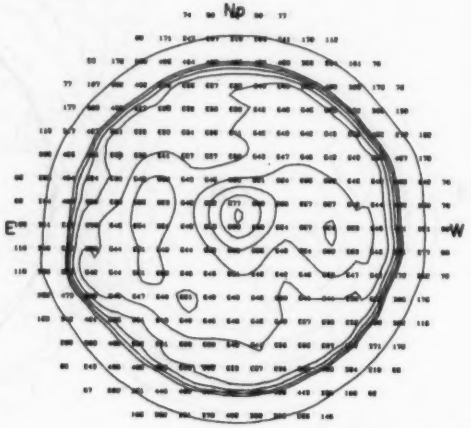
COUNT= 3887
ROLL = 22.1°
P-TH = 2.23

1238 UT

Counts per 0.125 sec.

PROSPECT HILL
AFCRL

8.6 mm



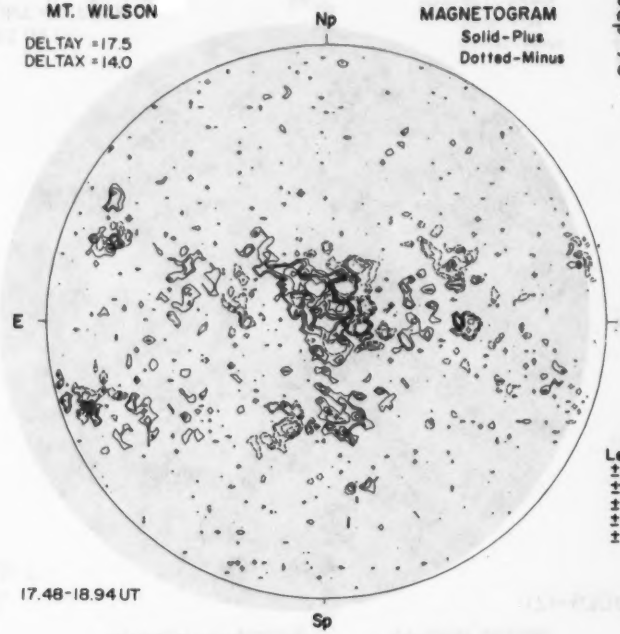
1532 UT

Contours in Intervals of 200° K

MT. WILSON

DELTAY =17.5
DELTAX =14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus

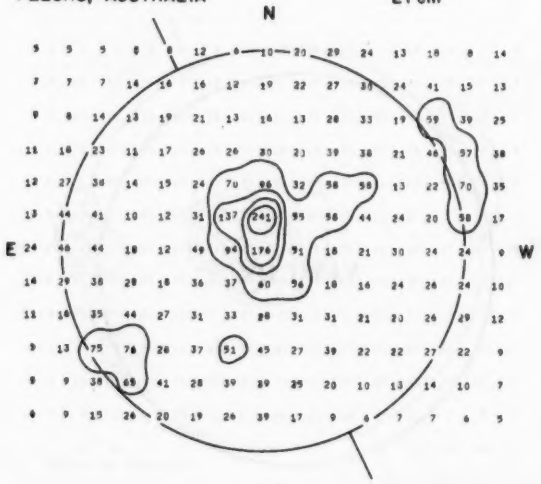


Levels
±5
±10
±20
±40
±80

17.48-18.94 UT

FLEURS, AUSTRALIA

21 cm

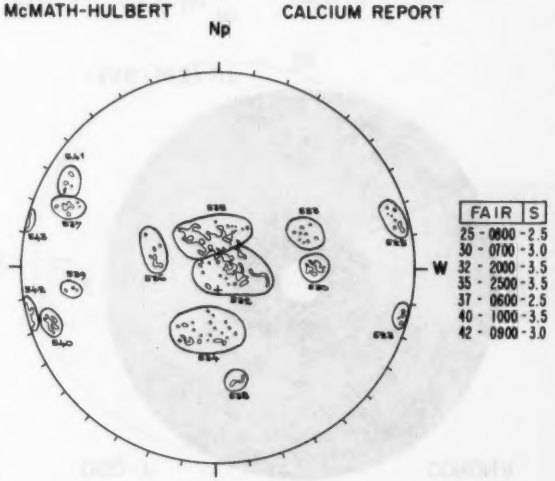


02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



FAIR	S
25 - 0800	- 2.5
30 - 0700	- 3.0
32 - 2000	- 3.5
35 - 2500	- 3.5
37 - 0600	- 2.5
40 - 1000	- 3.5
42 - 0900	- 3.0

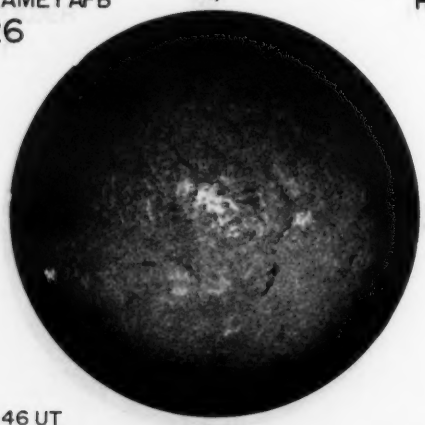
1435 UT

02-03 UT Brightness Unit 1,700° K 1435 UT

RAMEY AFB
26

Np

Hα



E W

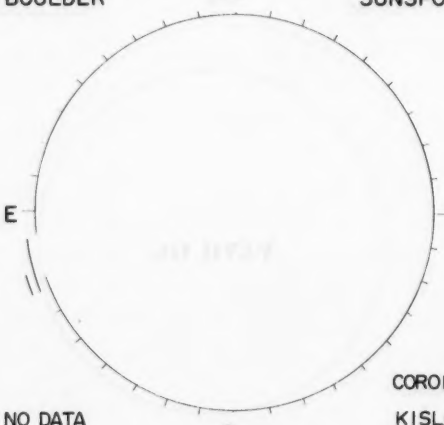
1146 UT

Sp

BOULDER

Np

SUNSPOTS



E W

NO DATA

Sp

CORONA
KISLOVODSK

NRL
OSO-7

Np

WHITE-LIGHT
CORONA

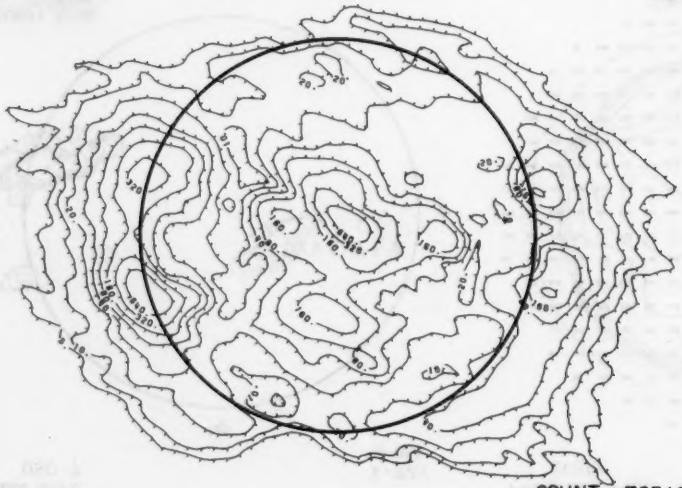
E W

1411 - 1726 UT

Sp

Np

NASA GSFC
OSO-7



E W

COUNT = 72519
ROLL = 22.1°
P-TH = 2.23

1238 UT

Sp

FE XV
284A

Np

NRL
OSO-7

E

NO DATA

W

COUNT =

Sp

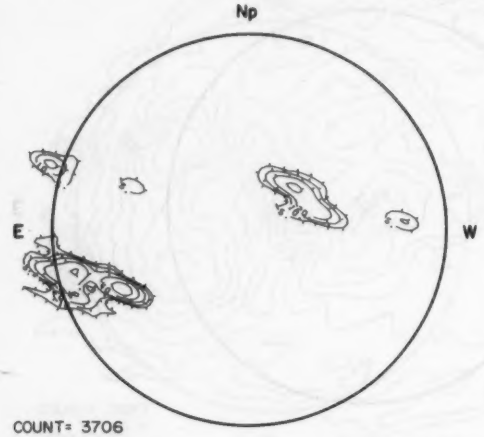
171-630A

77
Sep 73

SEPTEMBER 27, 1973 (P=25.69, B_o=6.88, L_o=249.33)

NASA GSFC
OSO-7

X-RAY
8-16A



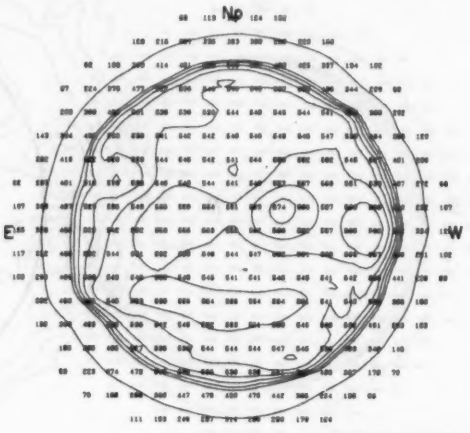
COUNT= 3706
ROLL = 21.3°
P-TH = 2.35

1128 UT

Counts per 0.125 sec.

PROSPECT HILL
AFCRL

8.6 mm



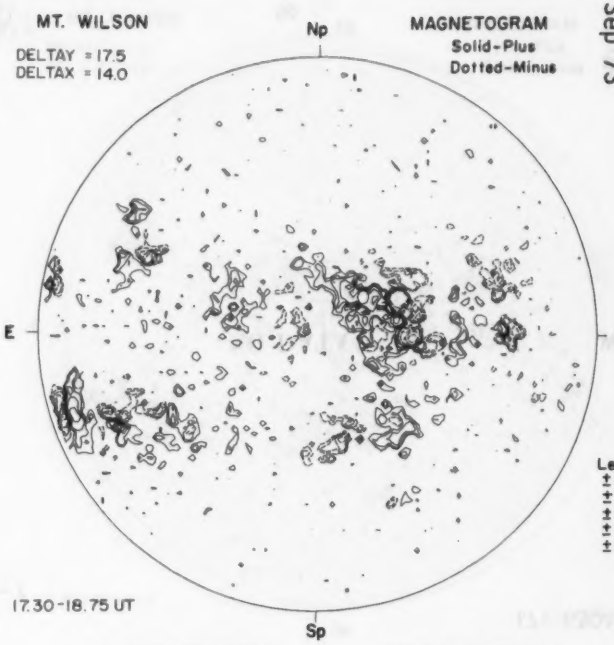
1357 UT

Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.5
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus



Levels
±5
±10
±20
±40
±80

17.30-18.75 UT

FLEURS, AUSTRALIA

21 cm

N

E

NO DATA

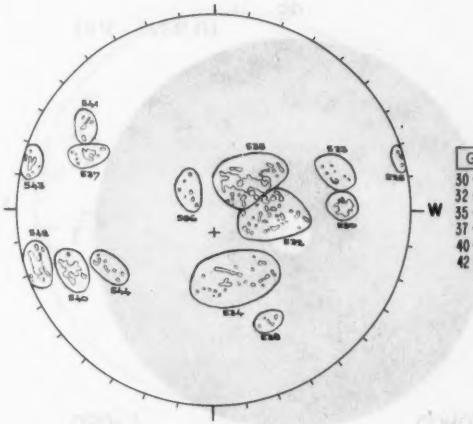
S

02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



GOOD	S
30 - 0900	- 3.0
32 - 2000	- 3.5
35 - 2500	- 3.5
37 - 0800	- 2.5
40 - 1400	- 3.5
42 - 2100	- 3.5

1335 UT

BOULDER

Hα

BOULDER

SUNSPOTS

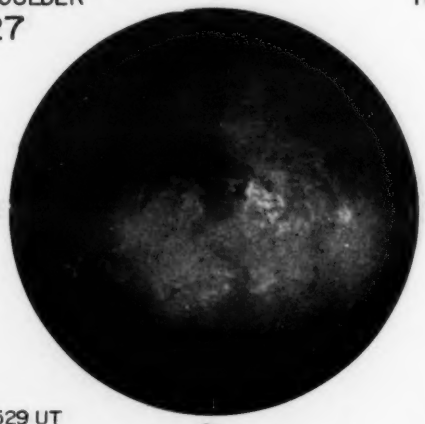
NRL

WHITE-LIGHT

BOULDER
27

Np

Hα



E

W

1529 UT

Sp

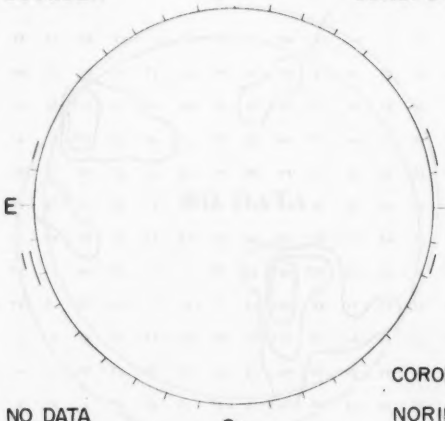
Np

NASA GSFC
OSO-7

BOULDER

Np

SUNSPOTS



E

W

CORONA

NO DATA

NORIKURA

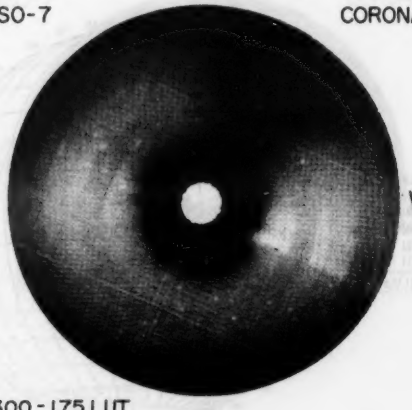
Sp

FE XV
284A

NRL

Np

WHITE-LIGHT
CORONA
OSO-7



E

W

1300-1751 UT

Sp

Np

NRL
OSO-7

171-630A

E

NO DATA

W

COUNT =
ROLL =
P-TH =

Sp

E

NO DATA

W

COUNT =

Sp

79
Sep 73

SEPTEMBER 28, 1973 (P=25.78, B_o=6.84, L_o=236.13)

MT. WILSON
DELTAY =
DELTAX =

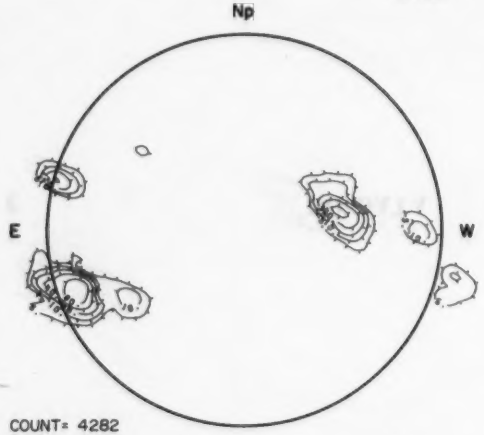
Np

MAGNETOGRAM
Solid-Plus
Dotted-Minus

Sep 73 80

NASA GSFC
OSO-7

X-RAY
8-16A



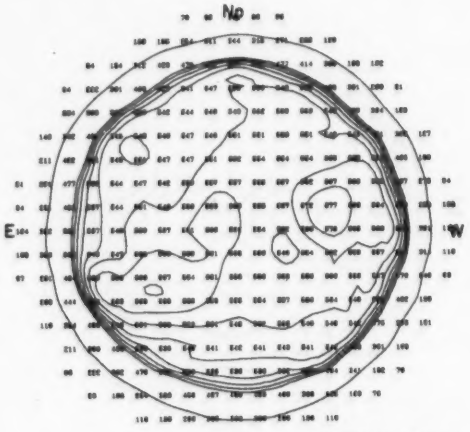
COUNT= 4282
ROLL = 21.5°
P-TH = 2.46

1153 UT

Counts per 0.125 sec.

PROSPECT HILL
AFCRL

8.6 mm



1511 UT

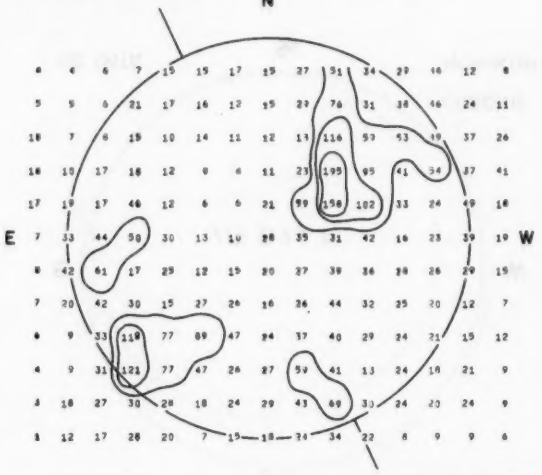
Contours in Intervals of 200° K

Levels
±5
±10
±20
±40
±80

Sp

FLEURS, AUSTRALIA

21 cm

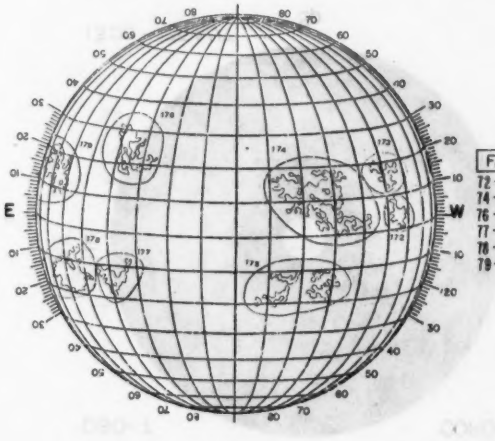


02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

CATANIA

CALCIUM REPORT



FAIR	SS
72 - 1150	---
74 - 7818	---
76 - 2895	---
77 - 1887	---
78 - 6115	---
79 - 4762	---

0950 UT

RAMEY AFB
28

Np

Hα

NRL
OSO-7

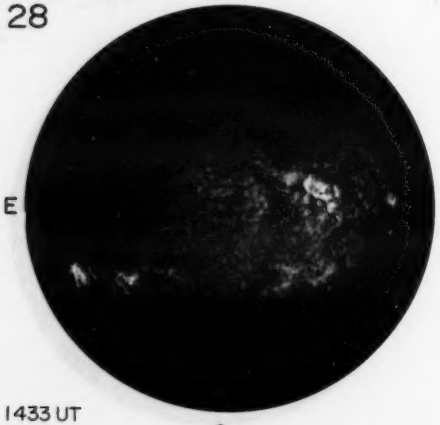
Np

WHITE-LIGHT
CORONA

RAMEY AFB
28

Np

Hα



E

W

1433 UT

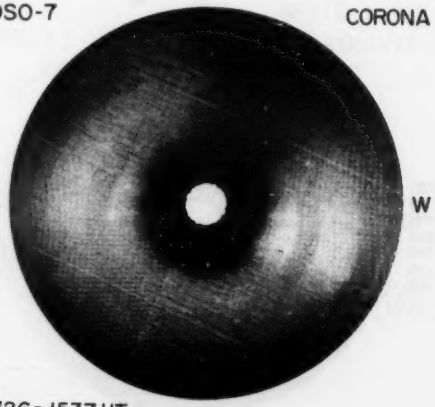
Sp

NO DATA

NRL
OSO-7

Np

WHITE-LIGHT
CORONA



E

W

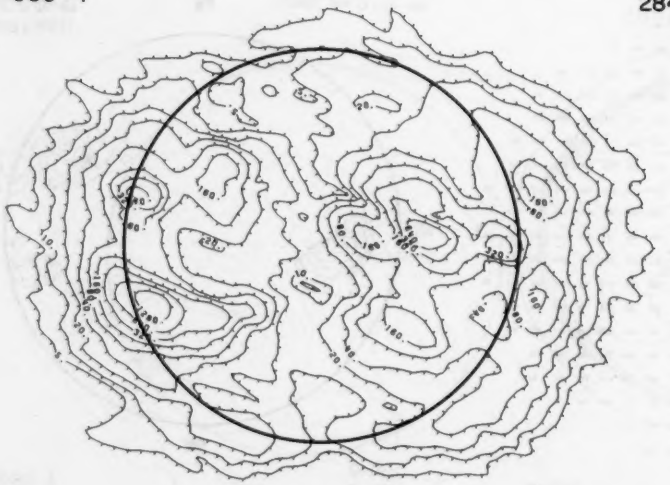
1326 - 1537 UT

Sp

NASA GSFC
OSO-7

Np

FE XV
284A



E

W

COUNT = 79240
ROLL = 21.5°
P-TH = 246

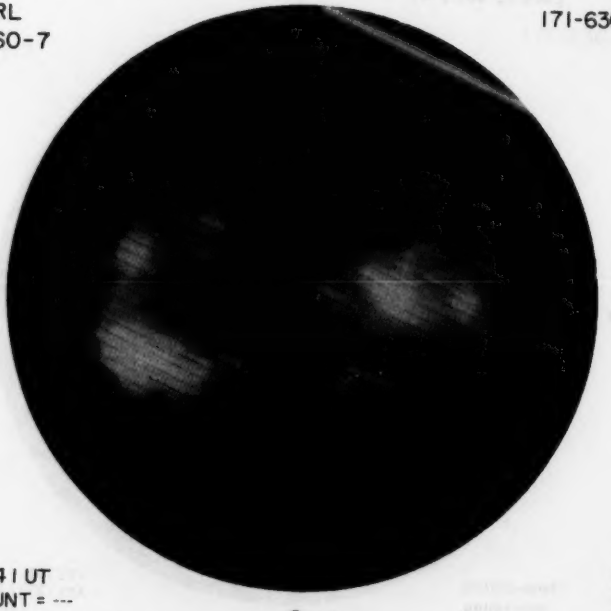
1153 UT

Sp

Np

NRL
OSO-7

171-630A



E

W

1641 UT
COUNT = ---

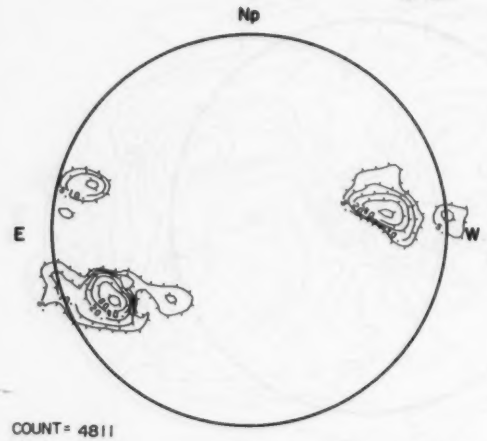
Sp

81
Sep 73

SEPTEMBER 29, 1973 (P=25.87, B_o=6.80, L_o=222.93)

NASA GSFC
OSO-7

X-RAY
8-16A



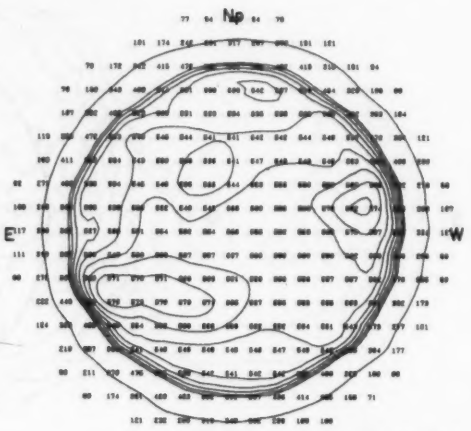
COUNT= 4811
ROLL = 20.8°
P-TH = 2.58

1218 UT

Counts per 0.125 sec.

PROSPECT HILL
AFCRL

8.6 mm



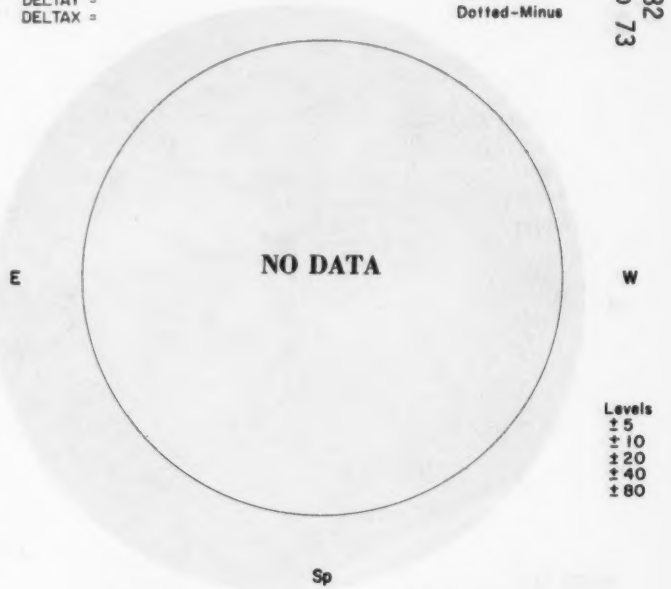
1323 UT

Contours in intervals of 200° K

MT. WILSON

DELTAY =
DELTAX =

MAGNETOGRAM
Solid-Plus
Dotted-Minus



Levels
± 5
± 10
± 20
± 40
± 80

FLEURS, AUSTRALIA

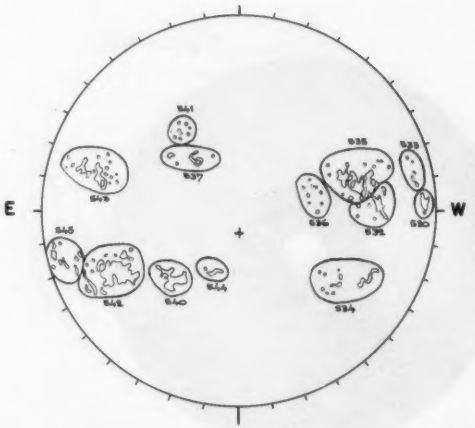
21 cm

02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



FAIR	S
30 - 0900	- 3.0
32 - 1800	- 3.5
35 - 2500	- 3.5
40 - 1400	- 2.5
42 - 3600	- 3.5
43 - 1200	- 3.0
44 - 0300	- 2.5

1850 UT

RAMEY AFB

Hα

BOULDER

SUNSPOTS

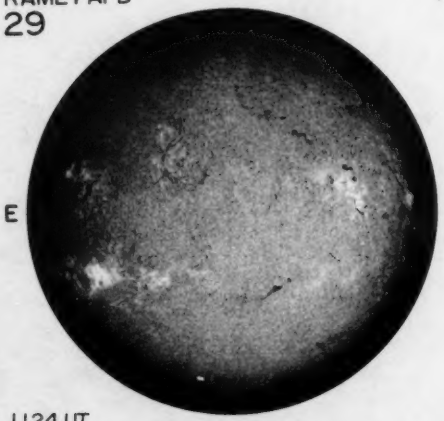
NRL

WHITE-LIGHT

RAMEY AFB
29

Np

Hα



E W

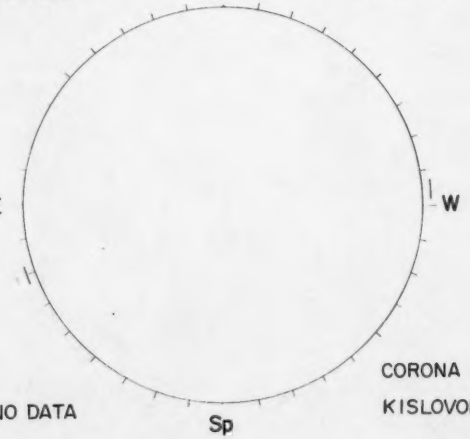
Sp

1124 UT

BOULDER

Np

SUNSPOTS



E W

Sp

NO DATA

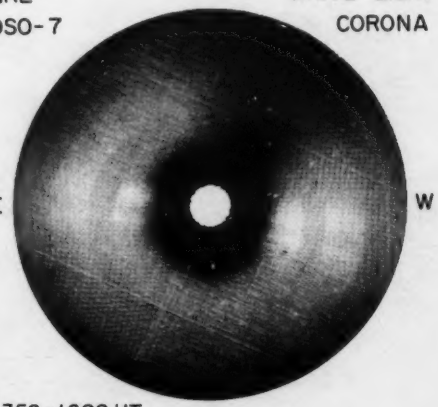
CORONA

KISLOVODSK

NRL
OSO-7

Np

WHITE-LIGHT
CORONA



E W

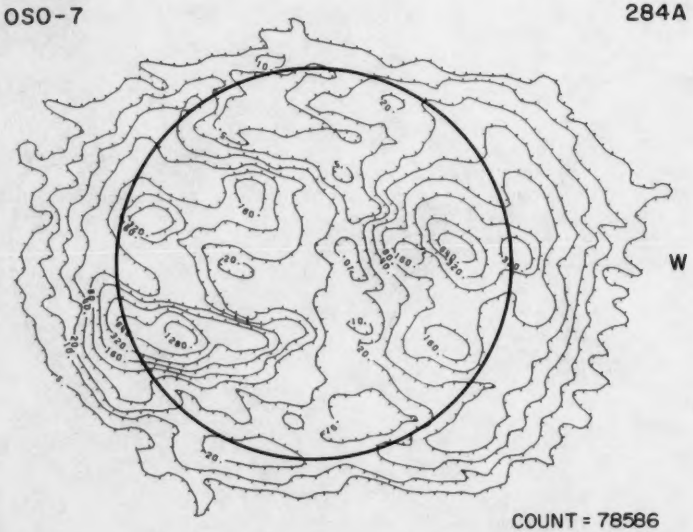
Sp

1352-1602 UT

NASA GSFC
OSO-7

Np

FE XV
284A



E W

Sp

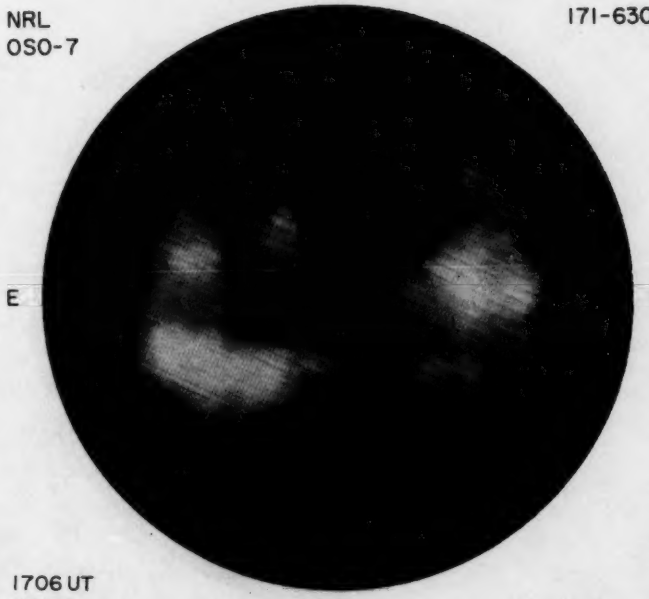
1218 UT

COUNT = 78586
ROLL = 20.8°
P-TH = 2.58

NRL
OSO-7

Np

171-630A



E W

Sp

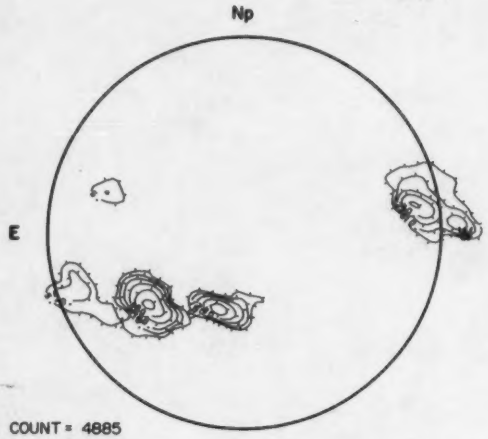
1706 UT
COUNT = ---

83
Sep 73

SEPTEMBER 30, 1973 (P=25.95, B_o=6.75, L_o=209.74)

NASA GSFC
OSO-7

X-RAY
8-16A



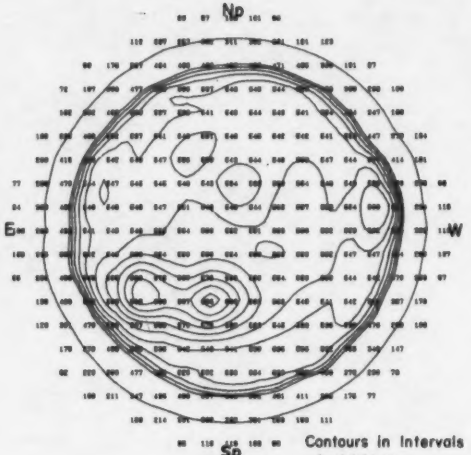
COUNT = 4885
ROLL = 20.6°
P-TH = 2.72

1559 UT

Counts per 0.125 sec.

PROSPECT HILL
AFCRL

8.6 mm



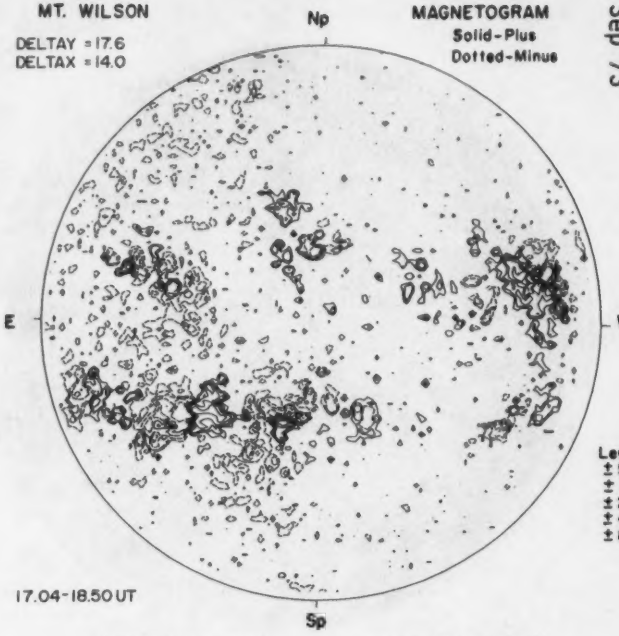
1514 UT

Contours in Intervals of 200° K

MT. WILSON

DELTAY = 17.6
DELTAX = 14.0

MAGNETOGRAM
Solid-Plus
Dotted-Minus



Levels
±5
±10
±20
±40
±80

17.04-18.50 UT

FLEURS, AUSTRALIA

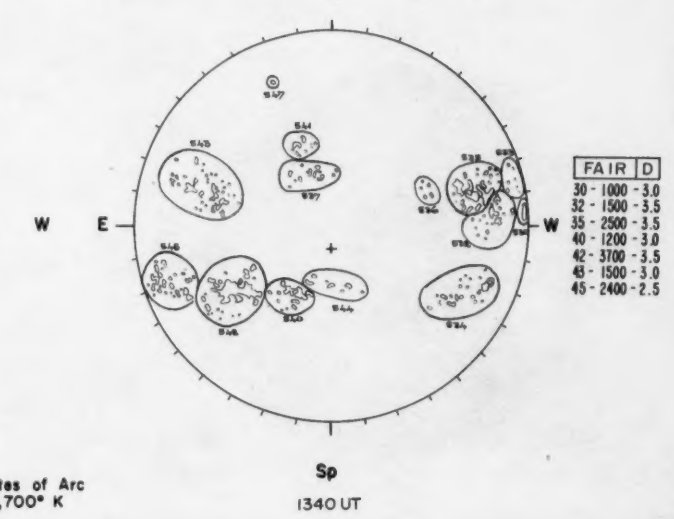
21 cm

02-03 UT

Resolution 3 Minutes of Arc
Brightness Unit 1,700° K

McMATH-HULBERT

CALCIUM REPORT



FAIR	D
30 - 1000 - 3.0	
32 - 1500 - 3.5	
35 - 2500 - 3.5	
40 - 1200 - 3.0	
42 - 3700 - 3.5	
43 - 1500 - 3.0	
45 - 2400 - 2.5	

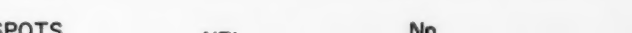
1340 UT

RAMEY AFB

Hα

BOULDER

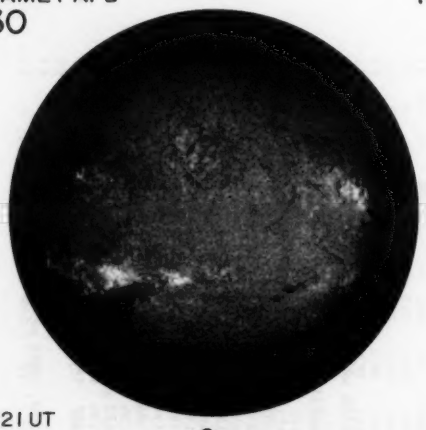
SUNSPOTS



RAMEY AFB
30

Np

Hα



E W

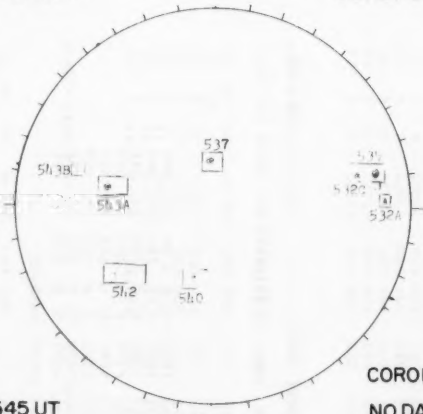
Sp

1121 UT

BOULDER

Np

SUNSPOTS



E W

Sp

1545 UT

CORONA

NO DATA

NRL
OSO-7

Np

WHITE-LIGHT
CORONA

E W

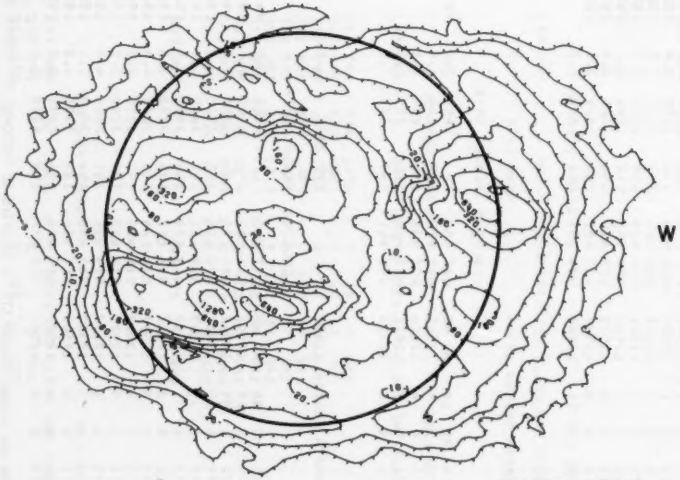
Sp

1239-1451 UT

NASA GSFC
OSO-7

Np

FE XV
284A



E W

Sp

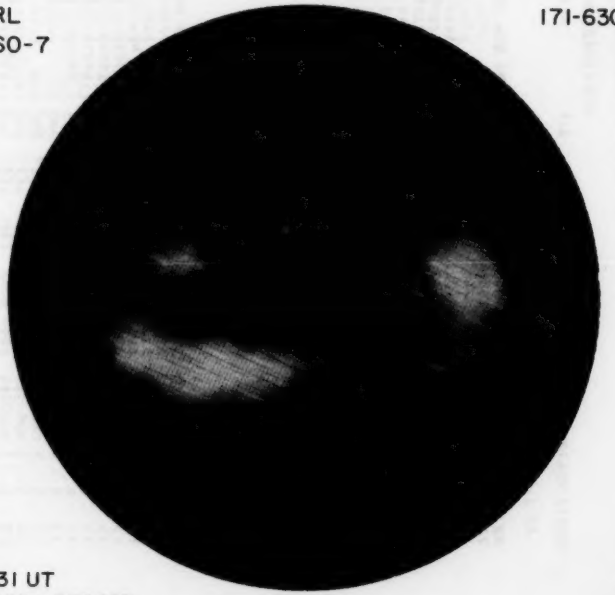
1559 UT

COUNT = 76410
ROLL = 20.6°
P-TH = 2.72

NRL
OSO-7

Np

171-630A



E W

Sp

1731 UT
COUNT = 309463

85
Sep 73

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MCMATH REGION 12504 — CMP DATE 1.5 — RETURN OF REGION 12474 — ROTATION 2

CALCIUM PLAGE DATA								SUNSPOT DATA									9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	8	25	12504	N14 E90	227	400	2.5											
73	8	26	12504	N12 E76	227	700	2.5										5	1
73	8	27	12504	N12 E63	225	1200	2.5	19244	N14 E62	226	AF		B	0	1	AXX	11	4
73	8	28	12504	N12 E51	228	1600	3.0	19244	N14 E48	227	(AF)	1						
73	8							19245	N08 E56	219	(A)	1						
73	8	29	12504	N12 E38	227	1300	3.0										6	2
73	8	30	12504	N12 E24	227	1600	2.5										6	2
73	8	31	12504	N11 E12	226	1400	2.5											
73	9	1	12504	N12 W02	225	1600	2.5											
73	9	2	12504	N12 W15	225	1500	2.5											
73	9	3	12504	N13 W28	225	1200	2.0											
73	9	4	12504	N13 W41	225	1200	2.0											
73	9	5	12504	N14 W55	226	1100	2.0											
73	9	6	12504	N13 W65	225	1000	2.0											
73	9	7	12504	N13 W78	224	800	1.0											

MCMATH REGION 12516 — CMP DATE 2.5

CALCIUM PLAGE DATA								SUNSPOT DATA									9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	9	2	12516	S07 W02	212	400	2.5	19252	S09 W06	216	(BP)	3	B	10	8	BXO		
73	9							19253	S09 E03	207	(B)	1						
73	9	3	12516	S07 W16	213	400	2.0	19252	S10 W23	218	(AP)	2	B	0	1	AXX		
73	9							19253	S09 W10	205								
73	9	4	12516	S07 W29	213	300	1.5		S10 W30				G	10	1	AXX		
73	9	5	12516	S07 W44	215	200	1.5											
73	9	6	12516	S08 W56	216	200	1.5											
73	9	7	12516	S08 W69	215	200	1.5	19256	S10 W76	218	AP							
73	9	8	12516	S06 W82	214	200	1.0											

MCMATH REGION 12508 — CMP DATE 3.6

CALCIUM PLAGE DATA								SUNSPOT DATA									9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	8	28	12508	N24 E80	199	200	1.5											
73	8	29	12508	N24 E66	199	200	1.5											
73	8	30	12508	N24 E52	199	200	1.5											
73	8	31	12508	N24 E40	198	100	1.5											
73	9	1	12508	N24 E27	196	100	1.0											
73	9	2	12508	N24 E12	198	500	3.0	19254	N22 E09	201	(BP)	4	B	30	17	CRO		
73	9	3	12508	N24 W02	199	1000	4.0	19254	N22 W06	201	(BP)	5	B	200	22	DAO		
73	9	4	12508	N24 W14	198	1400	3.5	19254	N22 W19	200	(BP)	6	G	280	16	DAI		
73	9	5	12508	N24 W29	200	1400	3.5	19254	N22 W29	200	(BP)	5	B	240	18	DSO		
73	9	6	12508	N24 W39	199	1500	3.5	19254	N22 W42	200	(BP)	5	B	160	13	DSO		
73	9	7	12508	N24 W52	198	1500	3.5	19254	N22 W58	200	(BP)	5	B	140	6	CSO		
73	9	8	12508	N23 W66	198	1200	3.5	19254	N22 W72	200	(AP)	5	B	130	1	HSX		
73	9	9	12508	N23 W82	198	1500	3.0	19254	N22 W86	204	(AP)	3	B	130	2	HSX		
73	9	10	12508	N23 W90	196	700	1.0											

MCMATH REGION 12518 — CMP DATE 3.7

CALCIUM PLAGE DATA								SUNSPOT DATA									9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	9	5	12518	N05 W26	197	100	1.5											
73	9	6	12518	N03 W36	196	200	2.0											
73	9	7	12518	N03 W49	195	200	1.5											
73	9	8	12518	N03 W61	193	100	2.5											

MCMATH REGION 12507 — CMP DATE 4.8 — RETURN OF REGION 12472 — ROTATION 3

CALCIUM PLAGE DATA								SUNSPOT DATA									9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT	FLUX
73	8	28	12507	S13 E85	194	1100	2.5	19246	S15 E80	195	(BP	4					18	6
73	8	29	12507	S14 E70	195	3800	3.0	19246	S15 E69	195	(BP)	4	B	340	25	EKI	23	7
73	8	30	12507	S14 E54	197	3500	4.0	19246	S16 E56	194	(BP)	5	B	350	34	DKI	31	10
73	8	31	12507	S13 E41	197	3000	4.0	19246	S16 E44	193	(BP)	5	G	500	8	DAC		
73	9	1	12507	S13 E29	194	3500	3.5	19246	S16 E28	194	(BP)	5	B	350	42	DAI		
73	9	2	12507	S14 E17	193	3300	3.5	19246	S15 E16	194	(BP)	5	B	420	43	DKI		
73	9	3	12507	S14 E04	193	3200	4.0	19246	S15 E02	193	(BP)	5	B	270	40	DKI		
73	9	4	12507	S15 W09	193	3200	3.5	19246	S15 W13	194	(BP)	5	G	360	25	DKI		
73	9	5	12507	S15 W23	194	3200	3.5	19246	S15 W22	193	(BP)	5	B	240	21	CAI		
73	9	6	12507	S15 W35	195	2800	4.5	19246	S15 W36	194	(BP)	5	B	200	14	CKO		
73	9	7	12507	S15 W48	194	3000	5.0	19246	S15 W50	192	(BP)	5	B	150	12	CKO		
73	9	8	12507	S15 W58	190	2300	4.0	19246	S14 W66	194	(BP)	5	B	140	6	HAX		
73	9	9	12507	S15 W75	191	2000	3.0	19246	S14 W79	197	(AP)	4	B	140	3	HSX		
73	9	10	12507	S16 W87	193	1000	1.0											

The new column marked STA is inserted to indicate the source of data for sunspot area, count and classification.
B = Boulder C = Carnarvon G = Gran Canaria (Canary Islands) M = Manila

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MCMATH REGION 12512 CMP DATE 6.3

			CALCIUM	PLAGE	DATA			SUNSPOT	DATA							9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT FLUX
73	9	1	12512	S16 E62	161	700	3.5	19251	S17 E59	163	(BP)	3	B	10	5	BXO	
73	9	2	12512	S16 E50	160	1000	4.0	19251	S18 E48	162	(D)	3	B	110	32	CAI	
73	9	3	12512	S16 E36	161	1200	3.5	19251	S18 E33	162	(BP)	4	B	140	29	DAI	
73	9	4	12512	S16 E24	160	1600	3.0	19251	S18 E18	163	(B)	4	G	240	22	DAI	
73	9	5	12512	S16 E09	162	1400	3.0	19251	S18 E08	163	(BF)	3	B	180	21	EAO	
73	9	6	12512	S16 W02	162	1200	3.0	19251	S18 W04	162	(BF)	4	B	50	15	CRO	
73	9	7	12512	S16 W15	161	1200	3.5	19251	S18 W18	160	(BF)	3	B	50	10	CRO	
73	9	8	12512	S16 W28	160	1800	2.5	19251	S19 W29	157	(AF)	3	B	10	9	BXO	
73	9	9	12512	S16 W44	160	1700	2.5	19251	S18 W44	162	(BF)	2					
73	9	10	12512	S16 W55	161	1500	3.0										
73	9	11	12512	S17 W68	161	1200	2.5										
73	9	12	12512	S17 W80	160	800	2.0										

MCMATH REGION 12510 CMP DATE 6.4

			CALCIUM	PLAGE	DATA			SUNSPOT	DATA							9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT FLUX
73	8	30	12510	N15 E88	163	700	2.0	19249	N14 E87	163	(AP)	3	B	80	1	HSX	6 2
73	8	31	12510	N15 E76	162	600	3.5	19249	N14 E73	164	(BP)	4	G	110	2	CSO	
73	9	1	12510	N15 E63	160	2200	3.5	19249	N14 E59	163	(BP)	5	B	240	7	CSO	
73	9	2	12510	N15 E50	160	2100	3.0	19249	N14 E47	163	(BP)	5	B	280	12	CHO	
73	9	3	12510	N15 E37	160	2000	3.5	19249	N14 E31	164	(BP)	6	B	290	8	CHO	
73	9	4	12510	N15 E25	159	1800	4.0	19249	N13 E15	166	(BP)	6	G	380	21	CHO	
73	9	5	12510	N15 E10	161	1900	3.5	19249	N13 E07	164	(BP)	6	B	300	10	CHO	
73	9	6	12510	N13 W02	162	1900	3.5	19249	N13 W06	164	(BP)	6	B	270	9	CHO	
73	9	7	12510	N13 W15	161	1600	3.5	19249	N13 W22	164	(BP)	5	B	270	4	CHO	
73	9	8	12510	N15 W28	160	1500	3.0	19249	N13 W36	164	(BP)	6	B	280	1	HHX	
73	9	9	12510	N15 W44	160	1300	3.0	19249	N13 W47	165	(BP)	6	B	290	6	HHX	
73	9	10	12510	N15 W55	161	1300	3.0	19249	N13 W60	165	(AP)	6	B	300	1	HHX	
73	9	11	12510	N15 W71	164	1100	2.5	19249	N13 W79	167	(AP)	6	B	300	1	HHX	
73	9	12	12510	N15 W82	162	1200	2.0	19249	N12 W89	167	(AP)	5	B	280	1	HHX	

MCMATH REGION 12520 CMP DATE 7.2

			CALCIUM	PLAGE	DATA			SUNSPOT	DATA							9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT FLUX
73	9	8						19257	S10 W22	150	(AP)	1					
73	9	9	12520	S12 W34	150	900	3.0	19257	S10 W34	152	(BP)	3					
73	9	10	12520	S12 W45	151	1300	3.5	19257	S10 W48	153	(BY)	4	B	140	26	DAI	
73	9	11	12520	S11 W59	152	1600	3.0	19257	S10 W64	152	(B)	3	B	30	19	BXO	
73	9	12	12520	S10 W72	152	1800	3.0	19257	S10 W74	152	(BP)	3	B	20	7	BXO	
73	9	13	12520	S10 W90	155	500	1.0										

MCMATH REGION 12517 CMP DATE 7.9

			CALCIUM	PLAGE	DATA			SUNSPOT	DATA							9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT FLUX
73	9	4	12517	N00 E43	141	100	2.0										

MCMATH REGION 12513 CMP DATE 8.4

			CALCIUM	PLAGE	DATA			SUNSPOT	DATA							9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT FLUX
73	9	1	12513	S12 E85	138	200	1.5										
73	9	2	12513	S12 E75	135	1000	2.5										
73	9	3	12513	S12 E63	134	1200	3.0	19255	S13 E59	136	(BP)	3	B	10	4	BXO	
73	9	4	12513	S13 E52	132	1800	3.0	19255	S13 E45	136	(BP)	4	G	90	7	DSO	
73	9	5	12513	S13 E36	135	2100	3.5	19255	S12 E35	136	(BP)	4	B	90	34	ESI	
73	9	6	12513	S13 E25	135	2000	3.5	19255	S12 E22	136	(BP)	4	B	130	45	CAI	
73	9	7	12513	S13 E12	134	2000	3.5	19255	S12 E07	135	(BP)	4	B	120	27	CAI	
73	9	8	12513	S13 W04	136	3000	3.0	19255	S12 W08	136	(B)	4	B	100	56	DAI	
73	9	9	12513	S13 W20	136	2900	3.5	19255	S12 W19	137	(B)	4	B	110	54	DSI	
73	9	10	12513	S13 W31	137	3000	3.5	19255	S12 W33	138	(BF)	4	B	120	30	DAI	
73	9	11	12513	S13 W45	138	3300	3.5	19255	S11 W49	137	(BF)	2	B	10	13	BXO	
73	9	12	12513	S13 W56	136	3500	3.0	19255	S12 W56	134	(AF)	2	B	0	1	AXX	
73	9	13	12513	S13 W70	135	3400	3.0										
73	9	14	12513	S13 W83	134	1000	1.5		S09 W75				B	20	7	BXO	

MCMATH REGION 12526 CMP DATE 11.1

			CALCIUM	PLAGE	DATA			SUNSPOT	DATA							9.1 CM	
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT FLUX
73	9	9							S17 E42				B	0	8	BXO	
73	9								S10 E35				B	90	23	CRI	
73	9	15	12526	S18 W59	99	100	1.5										

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MCMATH REGION 12527 CMP DATE 14.5

			CALCIUM PLAGE DATA					SUNSPOT DATA									9.1 CM
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT FLUX
73	9	15	12527	N13 W13	53	200	2.0										
73	9	16	12527	N13 W24	51	200	2.0		N12 W21				G	0	2	BXO	

MCMATH REGION 12531 CMP DATE 15.3

			CALCIUM PLAGE DATA					SUNSPOT DATA									9.1 CM
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT FLUX
73	9	19	12531	S16 W58	45	200	2.0										

MCMATH REGION 12521 CMP DATE 15.4

			CALCIUM PLAGE DATA					SUNSPOT DATA									9.1 CM
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT FLUX
73	9	10	12521	N15 E65	41	100	1.0										
73	9	11	12521	N15 E50	43	100	1.0										

MCMATH REGION 12528 CMP DATE 17.5

			CALCIUM PLAGE DATA					SUNSPOT DATA									9.1 CM
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT FLUX
73	9	16	12528	S04 E12	15	100	1.5	19260	S05 E09	17	(AP)	2	G	0	2	BXO	
73	9	18	12528	S04 W15	15	100	2.5										

MCMATH REGION 12529 CMP DATE 17.9

			CALCIUM PLAGE DATA					SUNSPOT DATA									9.1 CM
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT FLUX
73	9	18	12529	N22 W09	9	100	2.0										

MCMATH REGION 12524 CMP DATE 19.4 RETURN OF REGION 12488 ROTATION 2

			CALCIUM PLAGE DATA					SUNSPOT DATA									9.1 CM
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT FLUX
73	9	13	12524	N13 E78	348	500	1.0										
73	9	14	12524	N17 E61	351	700	1.5										
73	9	15	12524	N17 E50	351	600	1.5										
73	9	16	12524	N15 E37	351	600	1.0										
73	9	18	12524	N15 E11	350	700	1.5										
73	9	19	12524	N15 W03	350	700	1.0										
73	9	20	12524	N15 W17	351	700	1.5										
73	9	21	12524	N15 W27	348	1200	1.5										
73	9	22	12524	N15 W44	351	800	1.5										
73	9	23	12524	N16 W57	352	700	1.0										
73	9	24	12524	N16 W69	351	500	1.0										

MCMATH REGION 12522 CMP DATE 19.7

			CALCIUM PLAGE DATA					SUNSPOT DATA									9.1 CM
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT FLUX
73	9	13	12522	S08 E83	343	900	2.5										
73	9	14	12522	S07 E68	344	1200	3.5										
73	9	15	12522	S08 E56	345	800	3.5	19259	S08 E52	348	(BY)	2					
73	9	16	12522	S08 E43	345	800	3.5	19259	S09 E39	348	(A)	1					
73	9	18	12522	S08 E15	346	900	3.0	19259	S10 E14	341							
73	9	19	12522	S08 E01	346	1000	2.5										
73	9	20	12522	S08 W13	347	1000	2.5										
73	9	21	12522	S08 W24	345	1000	2.5										
73	9	22	12522	S08 W39	346	1000	2.0										
73	9	23	12522	S08 W52	347	1000	2.0										
73	9	24	12522	S08 W65	347	900	1.5										
73	9	25	12522	S08 W75	343	500	1.0										

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MCMATH REGION 12523 CMP DATE 21.2

				CALCIUM PLAGE DATA				SUNSPOT DATA									9.1 CM
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT FLUX
73	9	14	12523	S12 E88	324	300	2.0										
73	9	15	12523	S13 E74	327	600	2.0										
73	9	16	12523	S14 E61	327	1000	2.0										
73	9	18	12523	S14 E34	327	900	2.5										
73	9	19	12523	S14 E21	326	1000	2.5										
73	9	20	12523	S14 E07	327	1100	3.0										
73	9	21	12523	S14 W04	325	1000	3.0										
73	9	22	12523	S14 W20	327	1000	2.5										
73	9	23	12523	S14 W33	328	900	2.5										
73	9	24	12523	S14 W45	327	800	2.5										
73	9	25	12523	S14 W60	328	800	2.5										
73	9	26	12523	S14 W73	328	400	1.5										

MCMATH REGION 12525 CMP DATE 21.4

				CALCIUM PLAGE DATA				SUNSPOT DATA									9.1 CM
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT FLUX
73	9	14	12525	N17 E85	327	1000	2.5	19258	N14 E84	329	(AP)	3	B	40	1	HSX	
73	9	15	12525	N16 E78	323	900	3.0	19258	N14 E71	329	(AP)	4	C	70	2	CSO	
73	9	16	12525	N16 E65	323	1100	3.0	19258	N14 E60	327	(BP)	4	G	60	4	CSO	
73	9	17						19258	N13 E47	326	(BP)	4	B	40	5	CSO	
73	9	18	12525	N16 E36	325	1300	3.0	19258	N13 E28	327	(BP	4	B	30	3	CSO	
73	9	19	12525	N16 E22	325	1200	3.0	19258	N13 E21	326	(BP)	5	B	30	3	CSO	
73	9	20	12525	N16 E09	325	1100	2.5	19258	N14 E08	327	(BP	4	B	30	3	CSO	
73	9	21	12525	N16 W03	324	1200	2.5	19258	N14 W05	326	(BP	4	B	50	2	CSO	
73	9	22	12525	N15 W19	326	1200	2.0	19258	N13 W17	325	(BP)	4	B	20	2	CSO	
73	9	23	12525	N15 W31	326	1200	2.5	19258	N15 W33	328	(AP)	3	B	20	1	HRX	
73	9	24	12525	N15 W44	326	800	2.5	19258	N15 W44	326	(BP	2	B	10	1	AXX	
73	9	25	12525	N15 W59	327	900	2.5	19258	N17 W60	327	AP		G	10	2	BXO	
73	9	26	12525	N16 W71	326	800	2.5										
73	9	27	12525	N16 W84	326	300	1.0										

MCMATH REGION 12530 CMP DATE 24.6 RETURN OF REGION 12503 ROTATION 2

				CALCIUM PLAGE DATA				SUNSPOT DATA									9.1 CM
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT FLUX
73	9	18	12530	N04 E82	279	600	2.0										
73	9	19	12530	N04 E68	279	500	2.5										
73	9	20	12530	N04 E54	280	600	3.0	19262	N04 E50	285	AP		B	0	2	BXO	
73	9	21	12530	N04 E40	281	600	3.0	19262	N04 E38	283	(BP	2	B	20	2	BXO	
73	9	22	12530	N04 E26	281	500	2.5	19262	N04 E27	281	(AP)	2	B	0	1	AXX	
73	9	23	12530	N04 E13	282	600	3.0	19262	N04 E12	283	(AP)	3	B	10	1	AXX	
73	9	24	12530	N04 W01	283	500	3.0	19262	N05 W01	283	(BP)	2	B	10	5	BXO	
73	9	25	12530	N05 W15	283	500	2.5	19262	N06 W16	283	(BP	2	G	10	4	BXO	
73	9	26	12530	N05 W30	285	700	3.0	19262	N07 W30	284	BF)	2	G	10	2	BXO	
73	9	27	12530	N06 W43	285	900	3.0	19262	N06 W40	281		2	G	10	4	BXO	
73	9	28						19262	N05 W57	285	BF)	2	G	0	1	AXX	
73	9	29	12530	N06 W70	283	900	3.0										
73	9	30	12530	N06 W83	286	1000	3.0										

MCMATH REGION 12533 CMP DATE 24.6 RETURN OF REGION 12497 ROTATION 5

				CALCIUM PLAGE DATA				SUNSPOT DATA									9.1 CM
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT FLUX
73	9	19	12533	N14 E66	281	200	1.0										
73	9	20	12533	N15 E53	281	400	1.5										
73	9	21	12533	N15 E40	281	500	1.5										
73	9	22	12533	N16 E27	280	600	1.5										
73	9	23	12533	N16 E14	281	400	2.0										
73	9	24	12533	N16 E01	281	400	2.0										
73	9	25	12533	N16 W13	281	600	1.5										
73	9	26	12533	N16 W26	281	300	1.5										
73	9	27	12533	N16 W39	281	400	1.5										
73	9	29	12533	N15 W65	278	300	1.0										
73	9	30	12533	N15 W77	280	400	1.0										

MCMATH REGION 12538 CMP DATE 26.1

				CALCIUM PLAGE DATA				SUNSPOT DATA									9.1 CM
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT FLUX
73	9	25	12538	S29 E07	261	300	2.5	19266	S30 E04	263							
73	9	26	12538	S29 W07	262	200	1.5										
73	9	27	12538	S29 W19	261	200	1.0										

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HCMATH REGION 12532 CMP DATE 26.5 RETURN OF REGION 12511 ROTATION 2

CALCIUM PLAGE DATA — SUNSPOT DATA — 9.1 CM

YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT FLUX
73	9	19	12532	N05	E89	258	700	1.0	19261	N05	E88	259	AP						
73	9	20	12532	N06	E76	256	2500	3.0	19261	N05	E75	260	(AP)	3	B	100	2	HAX	
73	9	21	12532	N07	E63	258	2800	3.5	19261	N05	E61	260	(AP)	4	B	10	2	HAX	
73	9	22	12532	N07	E50	257	2800	3.0	19261	N04	E48	260	(AP)	5	B	110	2	HAX	
73	9	23	12532	N07	E37	258	2600	3.0	19261	N05	E34	261	(AP)	4	B	110	2	HAX	
73	9	24	12532	N07	E24	258	2400	3.0	19261	N05	E21	261	(AP)	5	B	90	2	HAX	
73	9									N03	E17				B	0	1	AXX	
73	9								19264	N08	E22	260	BF)	2	B	0	1	AXX	
73	9	25	12532	N07	E11	257	2100	3.0	19261	N05	E07	260	(AP)	4	G	150	2	HSX	
73	9								19264	N08	E08	259	BF)	3	G	20	3	BXO	
73	9	26	12532	N07	W05	260	2000	3.5	19261	N06	W07	261	(AP)	4	G	160	2	HSX	
73	9								19264	N08	W06	260	BF						
73	9	27	12532	N07	W18	260	2000	3.5	19261	N05	W20	261	(AP)	4	G	120	2	HSX	
73	9								19264	N08	W17	258	AF		G	0	1	AXX	
73	9	28							19261	N05	W33	261	(AP)	5	G	110	2	HSX	
73	9								19264	N08	W30	258	(AF)	3					
73	9	29	12532	N07	W46	259	1800	3.5	19261	N06	W49	262	(AP)	4	G	100	2	HSX	
73	9								19264	N08	W47	260							
73	9	30	12532	N07	W58	261	1500	3.5	19261	N07	W60	262	(AP)	4					
73	9								19264	N09	W57	259	(AF)	3	B	0	3	AXX	
73	10	1	12532	N07	W72	259	900	3.0	19261	N06	W75	263	(AP)	4	B	80	3	HSX	
73	10		12532						19264	N11	W72	260	(AF)	1	B	10	3	AXX	
73	10	2	12532	N06	W83	256	500	1.0											

HCMATH REGION 12534 CMP DATE 26.7 RETURN OF REGION 12509 ROTATION 2

CALCIUM PLAGE DATA — SUNSPOT DATA — 9.1 CM

YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT FLUX
73	9	20	12534	S14	E78	256	400	1.0											
73	9	21	12534	S14	E69	252	600	1.5											
73	9	22	12534	S14	E53	254	1200	2.5											
73	9	23	12534	S14	E41	254	1000	2.0											
73	9	24	12534	S14	E28	254	900	2.0											
73	9	25	12534	S14	E14	254	1200	2.0											
73	9	26	12534	S14	E01	254	1100	2.0											
73	9	27	12534	S14	W10	252	1200	1.5											
73	9	29	12534	S14	W36	249	1100	2.0											
73	9	30	12534	S14	W46	249	1400	2.0											
73	10	1	12534	S14	W61	248	1000	2.0											
73	10	2	12534	S15	W72	245	800	2.0											
73	10	3	12534	S18	W84	246	700	1.5											

HCMATH REGION 12535 CMP DATE 26.8 RETURN OF REGION 12501 ROTATION 3

CALCIUM PLAGE DATA — SUNSPOT DATA — 9.1 CM

YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT FLUX
73	9	20	12535	N13	E80	254	1200	3.0	19263	N14	E78	257	(AP)	3	B	10	2	BXO	
73	9	21	12535	N15	E67	254	1600	3.5	19263	N13	E67	254	(B)	4	B	60	8	DAI	
73	9	22	12535	N14	E55	252	2100	3.5	19263	N13	E54	254	(B)	4	B	150	18	DAI	
73	9	23	12535	N14	E43	252	2000	3.5	19263	N14	E40	255	(BP)	5	B	230	23	DAI	
73	9									N11	E41				B	10	1	AXX	
73	9	24	12535	N14	E30	252	2200	3.5	19263	N14	E27	255	(BP)	5	B	280	23	DSI	
73	9									N13	E33				B	0	1	AXX	
73	9	25	12535	N14	E17	251	2500	3.0	19263	N14	E13	254	(B)	5	G	450	26	DAI	
73	9	26	12535	N14	E03	252	2500	3.5	19263	N14	E00	254	(BP)	5	G	380	15	DAI	
73	9									N10	E00				G	10	2	BXO	
73	9	27	12535	N15	W11	253	2500	3.5	19263	N14	W13	254	(BP)	5	G	400	15	DHI	
73	9									N16	W04				G	0	2	AXX	
73	9	28							19263	N14	W26	254	(B)	5	G	320	12	DHI	
73	9	29	12535	N14	W38	251	2500	3.5	19263	N15	W42	255	(B)	5	G	400	13	DKI	
73	9	30	12535	N15	W49	252	2500	3.5	19263	N15	W54	256	(BP)	5	B	380	11	EHO	
73	10	1	12535	N15	W62	249	2200	3.0	19263	N14	W66	254	(BP)	5	B	380	8	EHO	
73	10	2	12535	N14	W76	249	2400	3.0	19263	N15	W82	252	BP)	3	B	300	4	EHO	
73	10	3	12535	N14	W87	249	2100	2.5	19263	N15	W89	250			G	60	1	HSX	

HCMATH REGION 12536 CMP DATE 28.1 RETURN OF REGION 12504* ROTATION 3

CALCIUM PLAGE DATA — SUNSPOT DATA — 9.1 CM

YR	MO	DA	MC NO.	LAT	CMD	L	AREA	INT	MW NO.	LAT	CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT FLUX
73	9	22	12536	N10	E76	231	600	1.5											
73	9	23	12536	N10	E63	232	400	1.0											
73	9	24	12536	N10	E49	233	500	1.0											
73	9	25	12536	N10	E33	235	500	1.0											
73	9	26	12536	N09	E19	236	400	1.5											
73	9	27	12536	N10	E07	235	300	1.0											
73	9	29	12536	N10	W22	235	400	1.0											
73	9	30	12536	N14	W32	235	300	1.0											
73	10	1	12536	N15	W46	233	200	1.0											
73	10	2	12536	N14	W60	233	200	1.5											

*An asterisk beside the "Return of Region" number indicates that the new region is only part of the area of the old region.

REGIONS OF SOLAR ACTIVITY

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MCMATH REGION 12548 CMP DATE 29.1

			CALCIUM PLAGE DATA					SUNSPOT DATA									9.1 CM
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT FLUX
73	10	2	12548	N10 W48	221	300	2.0										
73	10	3	12548	N10 W59	221	200	2.0										

MCMATH REGION 12539 CMP DATE 30.3

			CALCIUM PLAGE DATA					SUNSPOT DATA									9.1 CM
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT FLUX
73	9	25	12539	S02 E64	204	200	1.0										
73	9	26	12539	S02 E49	206	200	1.0										

MCMATH REGION 12544 CMP DATE 30.4

			CALCIUM PLAGE DATA					SUNSPOT DATA									9.1 CM
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT FLUX
73	9	27	12544	S12 E35	207	400	2.0										
73	9	29	12544	S12 E08	205	300	2.5										
73	9	30	12544	S11 W02	205	500	2.0										
73	10	1	12544	S10 W15	202	500	1.5										
73	10	2	12544	S12 W31	204	300	1.5										
73	10	3	12544	S12 W42	204	300	1.0										

MCMATH REGION 12537 CMP DATE 30.9

			CALCIUM PLAGE DATA					SUNSPOT DATA									9.1 CM
YR	MO	DA	MC NO.	LAT CMD	L	AREA	INT	MW NO.	LAT CMD	L	MAG.	H	STA	AREA	CNT	CLASS	INT FLUX
73	9	24	12537	N22 E84	198	500	1.5	19265	N20 E80	202	(AP)	3	B	100	1	HSX	
73	9	25	12537	N22 E71	197	500	2.0	19265	N19 E66	199	(AP)	3	G	150	1	HSX	
73	9	26	12537	N22 E58	197	600	2.5	19265	N19 E55	199	(AP)	5	G	170	1	HSX	
73	9	27	12537	N22 E43	199	800	2.5	19265	N20 E41	200	(AP)	5	G	110	2	HSX	
73	9	28						19265	N20 E29	199	(AP)	5	G	100	1	HSX	
73	9	29	12537	N22 E16	197	500	2.0	19265	N21 E14	199	(AP)	5	G	120	1	HSX	
73	9	30	12537	N22 E05	198	700	2.0	19265	N21 E01	201	(AP)	5	B	100	1	HSX	
73	10	1	12537	N22 W07	194	700	2.5	19265	N21 W11	199	(AP)	5	B	100	1	HSX	
73	10	2	12537	N22 W21	194	800	2.5	19265	N22 W26	198	(AP)	5	B	90	1	HSX	
73	10	3	12537	N22 W32	194	800	2.5	19265	N22 W38	199	(AP)	5	G	70	1	HSX	
73	10	4	12537	N22 W47	194	700	2.0	19265	N22 W52	198	(AP)	5	B	70	1	HSX	
73	10	5	12537	N22 W58	194	700	2.5	19265	N21 W62	197	(AP)	4	B	70	1	HSX	
73	10	6	12537	N22 W70	193	700	2.0	19265	N20 W78	198	(AP)	4	B	70	1	HSX	
73	10	7	12537	N22 W82	190	400	1.0										

Note: Region 12508 has a marked increase in activity and growth near central meridian on and after September 2.
Region 12510 has developed in the location of old plage 12475 of the previous rotation.
Region 12512 forms on disk, near east limb.
No calcium spectroheliograms were obtained at the McMath-Hulbert Observatory on September 17 and 28, 1973.

DAILY CALCIUM PLAGE INDEX

SEPTEMBER 1973

YR	MO	DAY	INDEX	YR	MO	DAY	INDEX	YR	MO	DAY	INDEX
73	9	1	30.8	73	9	11	12.0	73	9	21	12.9
73	9	2	32.8	73	9	12	7.4	73	9	22	19.7
73	9	3	35.0	73	9	13	3.4	73	9	23	20.9
73	9	4	34.2	73	9	14	2.2	73	9	24	20.5
73	9	5	32.7	73	9	15	3.2	73	9	25	21.2
73	9	6	30.9	73	9	16	5.1	73	9	26	24.0
73	9	7	28.6	73	9	17	*	73	9	27	27.3
73	9	8	22.5	73	9	18	8.9	73	9	28	*
73	9	9	18.7	73	9	19	9.3	73	9	29	31.0
73	9	10	16.3	73	9	20	12.4	73	9	30	33.5

* No observations at McMath-Hulbert Observatory

Errata for May 1973.

YR	MO	DAY	INDEX	YR	MO	DAY	INDEX	YR	MO	DAY	INDEX
73	5	1	22.1	73	5	11	13.1	73	5	21	22.4
73	5	2	29.3	73	5	12	9.4	73	5	22	22.0
73	5	3	30.0	73	5	13	*	73	5	23	*
73	5	4	29.3	73	5	14	1.9	73	5	24	22.9
73	5	5	32.9	73	5	15	4.2	73	5	25	21.9
73	5	6	33.4	73	5	16	6.0	73	5	26	21.8
73	5	7	30.1	73	5	17	8.4	73	5	27	*
73	5	8	25.2	73	5	18	16.2	73	5	28	16.2
73	5	9	20.4	73	5	19	23.2	73	5	29	*
73	5	10	16.5	73	5	20	21.4	73	5	30	*
								73	5	31	13.7

* NO OBSERVATIONS

SOLAR X-RAYS MEASURED BY SATELLITE
SOLRAD 9 – EXPLORER 37

SEPTEMBER 1973

NAVAL RESEARCH LABORATORY 1 - 8A HOURLY AVERAGES (10^{-3} ergs/cm^2/sec)

DAY	HOUR																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	0.33	0.41	0.44	0.23	0.29	0.25	0.21	0.27	0.32	0.23	0.23	0.98	0.30	0.48	0.45	0.36	0.30	0.41	0.52	0.29	0.40	0.98	0.45	0.63
2	0.78	1.13	1.19	0.63	0.95	1.05	1.88	1.39	0.88	0.76	1.80	1.11	0.76	0.96	0.59	1.04	1.86	1.51	1.80	1.53	0.62	1.10	0.88	0.66
3	1.44	0.49	0.90	0.75	0.59	0.53	0.55	0.51	1.13	0.57	0.85	0.38	0.44	0.37	0.44	0.43	1.40	0.47	0.37	0.44	0.35	0.39	0.38	0.51
4	0.60	1.00	1.29	0.71	0.39	0.93	0.42	0.34	0.33	0.69	0.34	0.88	0.34	0.34	0.32	1.95	1.68	0.41	0.36	0.36	0.30	3.03	0.32	0.32
5	0.26	0.30	0.40	0.38	0.37	0.60	0.35	0.48	0.35	1.26	0.32	0.32	0.46	1.03	0.51	0.62	0.48	0.62	1.97	0.55	4.08	0.48	0.53	1.16
6	1.02	0.97	0.50	0.60	0.78	0.86	0.65	0.80	1.32	24.0	1.48	1.05	3.51	2.20	1.90	0.95	1.34	1.00	1.31	1.08	1.06	0.77	0.65	0.66
7	0.82	0.74	1.40	0.90	0.94	0.62	1.31	2.50	1.82	3.05	1.35	7.83	69.7	10.3	4.12	2.91	3.29	1.29	0.86	1.12	0.52	0.53	0.66	0.58
8	0.52	0.44	0.76	0.39	0.43	0.49	0.53	0.45	0.46	0.36	0.38	0.40	1.59	0.39	0.26	0.27	0.23	0.39	0.35	0.34	0.32	0.32	0.34	0.29
9	0.22	0.31	0.29	0.30	0.39	0.59	0.35	0.23	0.29	0.35	0.34	0.25	0.36	0.38	0.43	0.46	0.42	0.69	0.70	0.55	0.38	1.07	0.57	0.35
10	0.42	0.61	3.55	3.75	0.64	0.60	0.63	0.41	0.66	0.36	0.36	1.30	2.24	1.25	0.65	0.55	1.52	0.61	0.87	0.69	0.67	1.00	0.76	0.40
11	0.33	0.22	0.24	2.36	0.63	0.27	1.04	6.72	0.43	0.36	0.24	0.22	0.25	0.26	0.31	0.64	0.44	0.43	3.05	4.29	3.58	1.83	1.51	0.95
12	0.73	0.59	0.57	0.44	0.31	0.25	0.28	0.27	0.22	0.29	0.29	0.51	0.24	0.23	0.23	0.19	0.19	0.20	0.16	0.20	0.33	0.28	0.19	0.51
13	0.30	0.26	0.41	0.23	0.21	0.18	0.35	0.28	0.34	1.29	1.53	0.26	0.25	0.27	0.21	0.35	0.20	0.20	0.32	0.23	0.15	0.17	0.17	0.18
14	0.18	0.18	0.70	0.24	0.18	0.21	0.16	0.16	0.19	0.16	0.18	0.18	0.18	0.31	0.17	0.17	0.15	0.17	0.18	0.18	0.21	0.12	0.15	0.15
15	0.21	0.18	0.21	0.18	0.14	0.17	0.41	0.62	0.22	0.16	0.15	0.13	0.18	0.15	0.18	0.13	0.17	0.19	0.14	0.17	0.17	0.38	0.30	0.19
16	0.23	0.34	0.26	0.19	0.27	0.15	0.16	0.19	0.13	0.15	0.13	0.17	0.16	0.11	0.13	0.14	0.19	0.16	0.12	0.15	0.17	0.17	0.14	0.12
17	0.13	0.16	0.14	0.17	0.17	0.15	0.20	0.15	0.16	0.15	0.12	0.20	0.09	0.19	0.12	0.14	0.13	0.11	0.12	0.13	0.12	0.13	0.14	0.13
18	0.10	0.14	0.14	0.27	0.14	0.24	0.10	0.26	0.21	0.12	0.17	0.12	0.13	0.15	0.18	0.17	0.12	0.13	0.12	0.17	0.14	0.12	0.15	0.13
19	0.16	0.13	0.12	0.13	0.18	0.12	0.23	0.21	0.17	0.18	0.20	0.17	0.19	0.15	0.15	0.15	0.15	0.17	0.14	0.13	0.14	0.13	0.17	0.18
20	0.14	0.14	0.13	0.23	0.21	0.15	0.14	0.11	0.16	0.22	0.19	0.17	0.17	0.17	0.19	0.14	0.17	0.19	0.17	0.16	0.20	0.19	0.20	0.18
21	0.18	0.35	0.19	0.22	0.19	0.18	0.17	0.17	0.23	0.19	0.19	0.14	0.16	0.18	0.13	0.15	0.14	0.29	0.16	0.12	0.23	0.18	0.14	0.16
22	0.20	0.16	0.13	0.15	0.19	0.17	0.22	0.23	0.17	0.16	0.19	0.18	0.16	0.15	0.18	0.14	0.17	0.13	0.16	0.16	0.16	0.16	0.18	0.15
23	0.15	0.17	0.18	0.15	0.17	0.18	0.26	0.20	0.19	0.24	0.15	0.15	0.15	0.17	0.14	0.17	0.21	0.42	0.24	0.17	0.16	0.19	0.14	0.15
24	0.21	0.14	0.26	0.16	0.17	0.21	0.21	0.19	0.33	0.24	0.22	0.23	0.21	0.31	0.18	0.17	0.18	0.19	0.31	0.20	0.19	0.30	0.36	0.34
25	0.59	1.53	0.57	0.43	0.21	0.22	0.21	0.33	0.28	0.33	0.27	0.31	0.27	0.26	0.21	0.44	0.32	0.41	0.71	0.40	0.28	0.21	0.28	0.35
26	0.30	0.25	0.23	0.25	0.89	0.74	0.63	0.37	0.24	0.28	0.20	0.18	0.23	0.30	0.19	0.23	0.20	0.22	0.25	0.18	0.22	0.29	0.25	0.23
27	0.31	0.25	0.26	0.34	0.28	0.21	0.25	0.23	0.30	0.25	0.21	0.20	0.18	0.20	0.18	0.21	0.20	0.22	0.23	0.24	0.21	0.25	0.23	0.23
28	0.23	0.24	0.20	0.15	0.25	0.28	0.25	0.28	0.25	0.27	0.31	0.30	0.25	0.22	0.21	0.21	0.18	0.25	0.24	0.21	0.19	0.22	0.25	0.21
29	0.31	0.26	0.28	0.27	0.35	0.30	0.28	0.31	0.27	0.21	0.21	0.34	0.19	0.24	0.48	0.71	0.51	0.21	0.26	0.27	0.24	0.29	0.27	0.29
30	0.65	0.27	0.28	0.36	0.37	0.61	0.84	0.56	0.41	0.39	0.45	0.28	0.27	0.33	0.92	0.88	0.34	0.58	0.31	0.34	0.28	0.24	0.24	0.43

SOLAR X-RAYS MEASURED BY SATELLITE
SOLRAD 9 - EXPLORER 37

SEPTEMBER 1973

NAVAL RESEARCH LABORATORY 8 - 20A HOURLY AVERAGES (10^{-2} ergs/cm^2/sec)

DAY	HOUR																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	0.57	0.56	0.65	0.52	0.53	0.53	0.50	0.49	0.59	0.50	0.48	0.56	0.53	0.67	0.69	0.59	0.60	0.66	0.77	0.62	0.67	1.00	0.75	0.86
2	0.90	1.10	1.19	0.91	1.07	1.16	1.45	1.42	1.07	1.12	1.61	1.21	1.02	1.03	0.91	1.17	1.51	1.49	1.54	1.86	0.96	1.06	1.10	0.86
3	1.32	0.83	1.00	0.92	0.93	0.85	0.88	1.05	1.24	0.91	1.00	0.74	0.75	0.70	0.69	0.76	1.35	0.80	0.72	0.80	0.75	0.73	0.74	0.86
4	0.89	1.07	1.37	0.98	0.72	0.90	0.72	0.70	0.68	1.09	0.69	0.93	0.70	0.67	0.66	1.39	1.35	0.83	0.71	0.75	3.64	0.67	0.66	0.64
5	0.63	0.63	0.74	0.70	0.72	0.91	0.70	0.83	0.78	1.18	0.73	0.70	0.79	1.20	0.92	1.00	0.87	1.01	1.36	0.89	2.43	0.90	0.79	1.31
6	1.35	1.29	0.96	0.92	1.02	1.02	0.91	1.04	1.24	6.72	1.57	1.33	2.34	2.02	1.68	1.21	1.27	1.23	1.44	1.41	1.24	1.17	1.04	0.96
7	1.14	1.06	1.28	1.18	1.19	1.06	1.17	1.61	1.78	1.89	1.53	2.75	22.1	6.48	3.45	2.49	2.28	1.52	1.14	1.20	0.83	0.81	0.93	0.87
8	0.79	0.77	0.92	0.73	0.75	0.73	0.71	0.74	0.70	0.67	0.72	0.71	1.30	0.71	0.57	0.57	0.55	0.63	0.67	0.63	0.63	0.57	0.57	0.59
9	0.52	0.58	0.58	0.56	0.63	0.68	0.62	0.54	0.56	0.60	0.58	0.54	0.63	0.68	0.66	0.68	0.69	0.81	0.82	0.77	0.67	0.90	0.83	0.66
10	0.69	0.79	1.71	2.92	1.03	0.88	0.88	0.70	0.82	0.67	0.67	1.14	1.75	1.50	1.04	0.93	1.38	0.93	0.96	0.94	0.87	1.09	1.06	0.79
11	0.63	0.53	0.53	1.39	0.83	0.50	0.60	3.24	0.79	0.70	0.52	0.50	0.50	0.50	0.50	0.58	0.75	0.61	0.62	1.88	2.73	2.71	1.78	1.54	1.19
12	1.00	0.83	0.81	0.73	0.58	0.51	0.56	0.51	0.49	0.52	0.55	0.68	0.51	0.49	0.46	0.42	0.44	0.41	0.40	0.40	0.54	0.49	0.40	0.62
13	0.52	0.46	0.53	0.46	0.39	0.40	0.48	0.44	0.55	0.95	1.23	0.48	0.48	0.50	0.42	0.51	0.45	0.43	0.51	0.45	0.40	0.38	0.40	0.40
14	0.38	0.39	0.73	0.40	0.38	0.38	0.36	0.35	0.34	0.35	0.35	0.35	0.39	0.50	0.36	0.32	0.33	0.33	0.31	0.31	0.33	0.29	0.29	0.30
15	0.33	0.33	0.32	0.32	0.30	0.28	0.49	0.94	0.44	0.29	0.28	0.27	0.31	0.26	0.28	0.25	0.26	0.25	0.24	0.26	0.23	0.30	0.41	0.31
16	0.37	0.48	0.41	0.35	0.30	0.26	0.23	0.21	0.22	0.23	0.20	0.19	0.22	0.19	0.24	0.24	0.21	0.20	0.20	0.19	0.22	0.24	0.21	0.19
17	0.17	0.23	0.19	0.16	0.15	0.16	0.18	0.14	0.14	0.14	0.14	0.15	0.15	0.16	0.15	0.15	0.17	0.14	0.15	0.14	0.13	0.16	0.15	0.15
18	0.15	0.15	0.15	0.16	0.15	0.14	0.16	0.16	0.16	0.16	0.15	0.16	0.17	0.20	0.21	0.21	0.21	0.20	0.21	0.21	0.22	0.23	0.23	0.25
19	0.25	0.24	0.25	0.25	0.29	0.26	0.36	0.34	0.33	0.30	0.30	0.29	0.27	0.26	0.29	0.27	0.28	0.26	0.26	0.26	0.29	0.29	0.30	0.27
20	0.27	0.28	0.30	0.39	0.34	0.30	0.29	0.27	0.28	0.28	0.30	0.32	0.34	0.33	0.31	0.31	0.32	0.29	0.32	0.30	0.31	0.30	0.33	0.33
21	0.35	0.43	0.38	0.41	0.39	0.38	0.38	0.37	0.41	0.40	0.35	0.33	0.33	0.33	0.28	0.28	0.29	0.30	0.29	0.31	0.37	0.35	0.31	0.34
22	0.34	0.34	0.30	0.29	0.33	0.36	0.38	0.35	0.35	0.36	0.33	0.32	0.32	0.32	0.31	0.34	0.34	0.31	0.32	0.31	0.32	0.32	0.30	0.30
23	0.31	0.34	0.35	0.33	0.36	0.38	0.42	0.43	0.41	0.39	0.35	0.32	0.33	0.32	0.29	0.34	0.40	0.50	0.44	0.34	0.35	0.44	0.34	0.35
24	0.38	0.32	0.38	0.32	0.35	0.45	0.34	0.40	0.49	0.46	0.46	0.45	0.43	0.54	0.44	0.37	0.32	0.39	0.53	0.39	0.44	0.49	0.55	0.54
25	0.67	1.33	0.86	0.70	0.54	0.50	0.48	0.52	0.54	0.59	0.52	0.61	0.58	0.54	0.55	0.72	0.66	0.70	0.88	0.75	0.60	0.54	0.60	0.62
26	0.61	0.58	0.55	0.57	1.11	0.98	0.96	0.77	0.64	0.58	0.54	0.51	0.56	3.95	0.55	0.49	0.53	0.51	0.52	0.53	0.51	0.56	0.52	0.55
27	0.61	0.61	0.61	0.66	0.61	0.93	0.53	0.54	0.57	0.55	0.52	0.54	0.51	0.51	0.49	0.50	0.51	0.51	0.53	0.56	0.52	0.56	0.54	0.56
28	0.55	0.55	0.58	0.54	0.61	0.60	0.58	0.60	0.60	0.62	0.72	0.62	0.60	0.55	0.56	0.56	0.56	0.58	0.53	0.53	0.55	0.55	0.57	0.54
29	0.63	0.57	0.59	0.63	0.69	0.64	0.58	0.56	0.58	0.54	0.55	0.69	0.55	0.57	0.72	0.80	0.78	0.56	0.58	0.60	0.55	0.59	0.58	0.60
30	0.78	0.59	0.63	0.62	0.65	0.82	1.04	0.89	0.72	0.74	0.74	0.59	0.56	0.60	1.02	1.09	0.72	0.92	0.64	0.70	0.65	0.53	0.51	0.60

SOLAR X-RAYS BY SATELLITE
EXPLORER 37

SEPTEMBER 1973

NAVAL RESEARCH LABORATORY

OUTSTANDING EVENTS

DAY	START TIME	0.5-3A FLUX XE-5	PEAK TIME	1-8A FLUX XE-4	PEAK TIME	8-20A FLUX XE-3	PEAK TIME	END TIME	COMMENTS
2	0616	11.00	0618	46.00	0618	21.00	0618	0628	
2	1035E	0.00D	1035E	44.00	1036	26.00	1036	1041	
2	1640	6.70	1642	38.00	1644	23.00	1645	1652	
2	1809	21.00	1810	71.00	1812	29.00	1813	1817	
2	2153	33.00	2154	85.00	2154	28.00	2154	2158	
3	1616	0.00D	1616E	74.00	1618	40.00	1618	1622D	
4	0521	14.00D	0523E	46.00	0523	21.00	0523	0526	
4	1502	48.00	1505	130.00	1504	53.00	1504	1509D	
4	1634	27.00	1635	69.00	1636	27.00	1637	1638	
5	0923	12.00	0924	44.00	0925	21.00	0925	0928	
5	1830	57.00	1832	130.00	1831	40.00	1831	1837	
5	2006	28.00	2014	84.00	2020	40.00	2017	2033	
6	0819	13.00	0820	39.00	0821	19.00	0822	0824	
6	0914E	120.00	0921	1100.00	0922	230.00	0923	1001	
6	1211	11.00	1220	47.00	1221	26.00	1224	1307	
6	1451	16.00	1452	47.00	1457	24.00	1456	1503	
7	0750	3.30	0750	34.00	0753	22.00	0753	0757	
7	0929	18.00D	0929E	45.00	0936	22.00	0940	0953	
7	1142	120.00	1155	1400.00	1203	370.00	1207	1504D	
7	1605	8.90	1608	45.00	1614	27.00	1614	1635	
8	1231	7.80	1233	38.00	1236	21.00	1236	1241	
10	0255	46.00	0258	130.00	0228	67.00	0308	0327	
11	0347	26.00	0349	80.00	0350	29.00	0351	0358	
11	0656	41.00	0710	130.00	0706	53.00	0710	0742	
11	1852E	6.70	1917	50.00	1917	40.00	1952	2052	

Note: Data from SOLRAD 10 are not available after 2200 UT on June 11 due to a malfunction of the data storage system. Hourly flux values and X-ray flares will be reported from SOLRAD 9 until SOLRAD 10 resumes normal operation.

SUDDEN IONOSPHERIC DISTURBANCES

SEPTEMBER 1973

DAY	UNIVERSAL TIME START	END	MAX	IMP	WIDE SPREAD INDEX	NUMBER OF STATION REPORTS BY TYPE SWF	SCNA	SEA	SPA	LF-SPA	SES	SFD	KNOWN FLARE	McMATH REGION
01	0205	0209	0207	1-	1							1	0205	12510
01	1355	1427	1400	1-	1			1					1354	12510
01	1431	1437U	1432	1-	1							1	1430	12507
01	2106	2150	2126	1-	1	1							*	
01	2217	2219	2218	1	1							1	2214	12507
02	0523	0527	0525	1-	1							1	0522	12512
02	0820E	0838	0822	1-	1			1					0818	12516
02	1033	1051	1042	1-	1	1							1036E	12513
02	1128	1147	1133	1-	1			1					1126E	12512
02	1342	1415	1348	1-	3			1	1		1		1343E	12512
02	1625	1630D	1630	1-	1				1				1625	12512
02	1808	1845	1815	1-	5	1			1		7	1	1809	12512
02	1905	1940	1910	1-	5	1			1		8	1	1904E	12512
02	2154	2233	2200	1-	5	1			1		5	1	NF	
03	0800	0912	0810	1-	1			1					0805	12507
03	1615	1700	1620	1	5	1		1	2		9	1	1313	12515
04	0054	0148	0059	1-	3				2			1	0052E	12510
04	0519	0632	0526	1-	1				1				0520	12510
04	0600E	0619	0603	1-	1			1					0600E	12510
04	0948	1030	0953	1	3	2		2	1		2		0950	12510
04	1500	1545	1510	1+	5	2	1	1	2		4	1	1455	12507
04	1632	1700	1640	1-	5			2	1		7	1	1628	12510
05	0920	0929D	0929	1-	1						1		0920	12507
05	1110	1115	1112	1-	1						1		1110	12507
05	1830	1900	1825	1+	5	2		1	1	1	10	2	1825	12510
05	2000	2115	2020	1	5	2			2		10		1952	12507
06	0626	0641	0628	1-	1	1							0625E	12501
06	0914	1040	0923	2	3	4	1	3	2		1		0912	12511
06	1450	1545	1500	1-	3	1			1		5		NF	
06	1615	1700D	1700	1-	1			1			1		1611	12507
07	1143	1315	1205	3	5	5	1	4	2		4		1140	12507
07	1605	1700	1620	1-	5	1		1	1		5		1602	12513
08	0242	0300	0249	1-	1				1				0242E	12507
08	0902	0918	0908	1-	1			1					0904	12507
08	1215	1240D	1240	1-	3	1			1		1		1215	12513
09	2141	2224	2147	1-	3	2			1		6		NF	
10	0225	0340	0233	1-	3	1		1	2				0223	12520
10	0830	0901	0844U	1-	1			1					0826	12520
10	1145	1200D	1200	1-	1				1		1		1143	12520
11	0700	0800	0715	1-	3	1		1	2				0654	12520
11	2109U	2111D	2111	1-	1							1	2110	12513
12	1226	1234	1227	1-	1			1					1224	12512
12	1542	1636	1554U	1-	1			1					1547	12512
13	0738	0756	0740	1-	1			1					0745E	12513
23	1745	1810D	1810	1-	1				1		1		1747	12534
24	0717	0728	0720	1-	3			1				1	0715E	12535
25	0553	0623	0605	1-	1			1					*	
28	0745	0756	0749	1-	1			1					0746	12540
29	1217	1321	1226	1-	1			1					1216	12535
29	1542	1629	1557	1-	1			1					1555	12535
30	1420	1510	1440	1-	1				1		1		1421E	12542

SUDDEN IONOSPHERIC DISTURBANCES

SEPTEMBER 1973

STATIONS REPORTING FOR SEPTEMBER 1973

AAVSO (A1, A19, A32)(SEA) (A1, A19, A21, A30, A31, A33, A36, A37, A38)(SES) (A31)(SWF)
BEARLEY (BY) (SWF)
BOULDER (BO) (SCNA, SEA)
DARMSTADT (DA) (SWF)
ENKOPING (SW) (SWF, SPA)
HAWAII (HA) (SFD)
HERSTMONCEUX (HC) (SEA)
HIRAISO (HI) (SWF)
HOBART (TA) (SEA)
HUANCAYO (HU) (SWF)
INUBO (IN) (SPA)
KUHLUNGSBORN (KU) (SEA, SPA)
MANILA (MA) (SWF, SPA)
MCMATH (MC) (SWF, SCNA)
NEUSTRELITZ (NU) (SWF, SCNA)
PANSKA VES (PU) (SWF, SEA, SES)
POITIERS (PO) (SEA)
PRESTON (LO) (SEA)
SACRAMENTO PEAK (SP) (SFD)
SAO PAULO (UM) (SPA, SES)
SOFIA (SF) (SES)
SOMERTON (SO) (SWF)
TABLE MOUNTAIN (TM) (SWF, SPA, LF-SPA)
TORINO (TN) (SPA)
TRINIDAD (TR) (SWF)
UPICE (UI) (SEA)
WHITE SANDS (WS) (SWF)

PERIODS OF NO OBSERVATIONS:

DATE	TIME (UT) and STATION
01-04	0000-2400 A21
01	0430-1218 TM, 0802-0821 UM (16 kHz), 1938-2225 (BO)
02	0040-2400 BO, 0134-0220 TM, 1305-1314 MC
03	0000-1908 BO, 0750-0943 UM (16 kHz), 1726-1846 UM (10 kHz), 2045-2400 UM (10 kHz), 1945-2000 TR
04-14	0900-0800 PU
04	0000-1130 UM (10 kHz), 0734-1206 MC, 1010-1331 UM (10 kHz), 1345-1443 TR
05	1355-1540 TR
06	1707-2114 UM (17 kHz)
07	1401-1735 UM (17 kHz), 2340-2400 BO
08	0035-2035 BO, 0755-1253 UM (16 kHz), 2030-2108 UM (16 kHz)
09	0420-1715 BO, 0740-1306 UM (16 kHz), 2142-2400 BO
10-30	0000-2400 A21
10	0000-2128 BO, 0030-0102 TM
11	0740-1306 UM (16 kHz), 1037-1245 BO, 1835-2148 BO, 2248-2252 TM
12	0745-0841 UM (16 kHz)
13	0742-1610 UM (16 kHz)
18	0745-0908 UM (16 kHz), 1018-1334 UM (16 kHz), 1109-1240 TR, 2258-2314 TM
20	0744-0918 UM (16 kHz)
21	0750-1548 UM (16 kHz)
24	0412-1505 BO
25-30	1137-1325 TR
25	2134-2144 TM
26	1419-2205 WS

SID's BY McMATH REGION

SEPTEMBER 1973

DAY	01	07	10	11	12	13	15	16	20	34	35	40	42	X-RAY	UN-KNOWN	NO FP
01		2	2													1
02					6	1		1							1	
03		1					1									
04		1	5													
05		3	1													
06	1	1	1												1	
07		1				1										
08		2				1										
09															1	
10									3							
11						1			1							
12					2											
13						1										
14																
15																
16																
17																
18																
19																
20																
21																
22																
23										1						
24											1					
25																1
26																
27																
28												1				
29											2					

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

SEPTEMBER 1973

SEP. 1973	TIMES OF OBSERVATION		STATION	EVENTS													SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND				
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.		
01	0000	0130	BOUL							0000	0052.0	1	0000	0052.0	1		CONT
	0000	0103	HARV														
			CULG							0000	0732	1					IIIS
			CULG				0000	0732									IS,N
	0000	0732	CULG							0000	0400	1					IS
			CULG							0024	0024.5	1					IIIB,U
			CULG							0400	0732	2					IS
	0516	1454	WEIS							0524.0	1618.0						IN
			CULG				0601		1								FAST DRIFT
	1301	2400	HARV							1300	2400	1					I
	1230	2400	BOUL										1321.0	1329.0	1		IIIG
			BOUL										1354.0	1354.1	1		III
			BOUL										1357.3	1357.5	1		III
			BOUL										1426.5	1426.7	1		III
			BOUL										1448.5	1448.6	1		III
			BOUL										1454.4	1454.5	1		III
			HARV							1524	1525	3	1524	1525	3		IIIG
	1507	1744	WEIS							1524.3	1524.9	2					IIIG
	1012	2314	SGMR										1524.3	1525.2	2		IIIG
			BOUL							1525.0	1526.3	2	1525.0	1526.3	2		IIIG
			BOUL										1642.0	2040.0	1		IIIN
			HARV							1738	1912	1	1738	1912	1		IIIN
			CULG							2032	2400	1					IIIS
	2032	2400	CULG				2032	2105	1	2032	2400	2					IS,CONT
			BOUL							2040.0	2400	1	2040.0	2400	1		CONT
			CULG				2106	2400									IN,N
02	0000	0732	CULG							0000	0732	1					IS
			CULG							0000	0400						IIIS,N
			CULG				0000	0732									IS,N
	0000	0101	HARV							0000	0100	1					I
	0000	0130	BOUL										0000	0052.0	1		CONT
			CULG							0015.5		2					IIIB
			CULG				0146	0146.5	1	0146	0146.5	2					IIIG,U
			CULG							0219		1					RS,OP
			CULG							0400	0732	1					IIIS
			CULG							0422		2					IIIG
	0516	1746	WEIS							0606.3	1646.6	1					IN
			WEIS							0753.2	0754.2	3					IIIG
			WEIS							0756.0	0757.4	1					IIIG
			WEIS							0851.4	0852.6	1					IIIG
	1013	2312	SGMR										1300.0	2312.0	1		CONT
	1230	2400	BOUL							1300.0	2400	2	1300.0	2400	2		CONT
	1300	2400	HARV							1307	2400	1					IN
			HARV							1532	1533	3	1532	1533	3		IIIG,U
			WEIS							1532.5	1533.0						IIIG
			HARV							1544	1625	2	1544	1625	2		IIIN
			HARV							1619	1623	3	1619	1623	3		IIIG,V
			WEIS							1619.2	1619.7	1					IIIG
			HARV							1627	1913	2	1627	1913	2		IIIS
			HARV							1915	2113	2	1915	2113	2		IIIN
	2032	2400	CULG				2032	2400	1	2032	2400	2					IS
			CULG							2032	2400	2					IIIS
			CULG				2204.5	2205.5	1	2204.5	2205.5	2					IIIG
03			CULG				0000	0731	1								IS,CONT
			CULG							0000	0731	2					IIIS
	0000	0731	CULG							0000	0731	2					IS,CONT,DC
	0000	0859	HARV							0000	0049	1					IN
	0000	0130	BOUL										0000	0130	2		CONT
	0519	1003	WEIS														
	1014	2310	SGMR										1130.0	2310.0	2		CONT
	1230	2400	BOUL							1230	2400	2	1230	2400	2		CONT
			BOUL							1251.0	2202.0	2					IS
	1301	2400	HARV							1301	2000	1					I
	1020	1733	WEIS							1340.0	1625.0	3					I
			HARV							1513	1620	2	1513	1620	2		IIIN
			HARV				1535	1618	1								IN
			HARV							1620	1940	2	1620	1940	2		IIIS
			HARV							1913	1916	3	1913	1916	3		IIIG,V
			HARV				1927	1928	3	1927	1928	3	1927	1928	3		IIIG,V
			SGMR										1927.3	1928.4	3		III
			HARV							1940	2025	2	1940	2025	2		IIIN
			HARV				2000	2346	1	2000	2356	1					IN
			HARV							2001	2002	3	2001	2002	3		IIIG,V
			HARV							2005	2006	3	2005	2006	3		IIIG,V
	2033	2400	CULG				2033	2400	1	2033	2400	2					IS,CONT,DC
			CULG				2033	2400									IIIN,N
			CULG							2033	2400	2					IIIGN
			CULG							2033	2400	1					IIIS
			CULG							2040.5		2					IIIB
			CULG							2119.5		2					IIIB,U
			CULG				2123	2129	1	2123	2130.5	2	2126.5	2128	1		IIIGG,V
			HARV				2123	2129	1	2123	2130	3	2123	2130	3		IIIGG
			CULG				2138.5	2139	1	2138.5	2139	1					IIIG,U
			HARV				2151	2359	1								IN
			CULG							2208	2208.5	2					IIIG
			CULG							2315	2320.5	2					IIIGG
			CULG				2321	2322.5	2	2321	2323	3	2321.5	2322	1		IIIG,V
			HARV				2321	2322	2	2319	2322	3	2321	2322	3		IIIGG

SOLAR RADIO EMISSION
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SEPTEMBER 1973

SEP. 1973	TIMES OF OBSERVATION		STATION	EVENTS												SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	
03			BOUL							2321.3	2323.7	3	2321.3	2321.7	3	III
04	0000	0130	BOUL							0000	0130	2	0000	0130	2	CONT
	0000	0057	HARV				0000	0005	1							I
			CULG				0000	0731	1	0000	0731	2				IS,CONT,DC
	0000	0731	CULG							0000	0731	1				IIIS
			CULG				0000	0731								IIIN,W
			CULG							0010.5	0011.5	2	0011		1	IIIG,U
			CULG							0019.5	0020.5	2				IIIG,U
			BOUL							0051.8	0058.0	3	0051.0	0058.0	3	IIIG
			CULG				0052.5	0058	1	0051	0058	2				IIIGG,U,V
			HARV							0053	0055	1				IIIGG,U
			CULG							0101	0108	1				II
			CULG				0102	0102.5	1	0102	0102.5	2				IIIG
			CULG							0111.5	0112.5	2				IIIG
			CULG				0124	0129.5	2	0124	0129.5	3	0124.5	0128	2	IIIGG,V,U
			CULG							0134	0135	2				IIIG
			CULG				0323	0326	2	0322.5	0326	3	0323	0326	2	IIIGG,V
			CULG				0327.5	0328.5	1	0327.5	0328.5	2				IIIGG
			CULG				0330.5	0333	1	0330.5	0333	2				IIIGG
			CULG				0335	0337	1	0335	0337	2	0335.5	0336.5	1	IIIGG
			CULG							0341	0343	2				IIIGG
			CULG							0443	0445	2				IIIG,U
			CULG				0454.5	0456	1	0454.5	0457	3				IIIG,V,U
			CULG				0515	0527	2	0512.5	0527	3	0518	0525	1	IIIGG,V
	0515	1617	WEIS							0517.5	0527.1	3				IIIGG
			CULG							0529.5		2				IIIB
			CULG							0534		2				IIIB
			WEIS							0545.0	1651.5	3				IN
			WEIS							0553.2	0554.1	3				IIIG
			CULG							0553.5	0554.5	2				IIIG,U
			CULG				0559	0559.5	1	0559	0600.5	2	0559	0600	1	IIIG,V,U
			WEIS							0559.2	0600.0	3				IIIG
			CULG							0607.5	0608.5	2	0607.5	0608.5	1	IIIG,V
			WEIS							0607.8	0608.2	2				IIIB
			CULG							0631	0632	2				IIIG
			WEIS							0631.5	0632.2	1				IIIG
			CULG				0634	0635.5	1	0634	0636.5	2				IIIG
			WEIS							0634.2	0635.5	2				IIIG
			WEIS							0658.5	0658.7	2				IIIB
			WEIS							0700.2	0701.1	1				IIIG
			WEIS							0702.3	0703.4	3				IIIGG
			CULG				0702.5	0703.5	1	0702.5	0704	3	0702.5	0703.5	1	IIIGG,V
			CULG				0705	0707	1	0705	0707	3	0705	0706.5	1	IIIGG,V
			WEIS							0705.0	0706.5	2				IIIGG
			CULG				0709.5	0710.5	1	0709.5	0710.5	2				IIIG,U
			WEIS							0754.4	0754.6	1				IIIG
			WEIS							0801.5	0802.0	2				IIIG
			WEIS							0803.2	0803.5	1				IIIG
			WEIS							0811.5	0813.2	2				IIIG
			WEIS							0920.5	0921.0	1				IIIG
			WEIS							0930.5	0930.8	1				IIIG
			WEIS							0945.6	0949.7	3				IIIGG
			WEIS							1200.5	1200.6	1				IIIB
			WEIS							1205.2	1205.6	1				IIIB
	1015	2304	SGMR										1205.4	1205.7	1	III
	1300	2400	HARV							1300	1340	1				IN
			HARV							1307	1308	1				IIIG
			WEIS							1307.1	1308.5	1				IIIG
	1230	2400	BOUL							1307.2	1308.8	2	1307.2	1308.8	2	IIIG
			SGMR										1307.3	1307.6	2	III
			BOUL										1327.3	1327.5	1	III
			BOUL										1354.0	1354.4	1	III
			BOUL										1359.0	1359.2	1	III
			BOUL							1402.3	1403.0	2	1402.3	1403.0	2	IIIG
			WEIS							1402.3	1402.5	1				IIIa
			SGMR										1402.5	1403.1	1	III
			BOUL										1407.0	1407.2	1	III
			BOUL							1408.4	1408.7	1	1408.4	1408.7	1	III
			BOUL										1426.2	1426.4	1	III
			WEIS							1459.1	1459.3	2				UNCLF
			HARV				1500	1506	3	1459	1507	3	1501	1507	3	IIIGG
			WEIS							1500.5	1507.2	3				IIIGG
			SGMR										1501.2	1514.8	2	IIIG
			BOUL							1501.5	1505.0	3	1501.5	1505.0	3	IIIG
			BOUL							1506.1	1507.6	2	1506.1	1507.6	2	IIIG
			HARV							1511	1514	2				II
			HARV							1511	1515	2	1511	1515	2	IIIGG
			WEIS							1511.5	1512.7	2				II
			BOUL							1511.9	1515.2	3	1511.9	1515.2	3	IIIG
			WEIS							1513.4	1514.4	1				IIIG
			BOUL										1516.8	1518.8	1	IIF
			BOUL							1517.5	1518.8	1				IIM
			BOUL										1526.0	1526.5	1	III
			SGMR										1528.3	1531.3	1	IIIG
			BOUL										1529.5	1529.9	1	III
			HARV							1530	1958	1	1530	1958	1	IIIN
			BOUL										1530.6	1531.6	2	III
			BOUL										1539.4	1539.6	1	III
			BOUL										1546.7	1548.0	1	IIIG

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

SEPTEMBER 1973

SEP. 1973	TIMES OF OBSERVATION		STATION	EVENTS												SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	
04			BOUL										1551.1	1551.2	1	III
			BOUL										1552.7	1552.9	1	III
			HARV							1553	1555	2	1553	1555	2	IIIG
			WEIS							1553.5	1554.0	1				IIIG
			BOUL							1553.6	1556.0	3	1553.6	1556.0	3	III
			SGMR										1553.7	1555.6	2	IIIG
			BOUL										1618.2	1618.7	1	III
			BOUL										1623.2	1623.3	1	III
			BOUL							1625.9	1638.7	3	1625.9	1638.7	3	IIIG
			SGMR										1626.0	1637.9	3	IIIG
	1622	1734	WEIS							1626.0	1635.7	3				III,V,GG
			HARV				1627	1638	2	1626	1638	3	1626	1638	3	IIIGG,V
			BOUL										1641.7	1642.2	1	III
			BOUL										1647.7	1647.9	1	III
			BOUL										1650.9	1651.1	1	III
			BOUL										1727.2	1727.4	1	III
			BOUL										1734.9	1735.0	1	III
			BOUL										1735.8	1735.9	1	III
			BOUL										1756.5	1756.9	1	III
			BOUL										1809.6	1810.3	1	IIIG
			HARV							1810		3	1810		3	IIIG
			SGMR										1810.0	1810.4	1	III
			BOUL										1819.4	1819.6	1	III
			BOUL										1903.2	1903.3	1	III
			BOUL										1911.1	1914.1	1	III
			BOUL										1920.5	1920.8	1	III
			BOUL										1928.8	1928.9	1	III
			BOUL										1933.0	1933.3	1	III
			BOUL										1937.0	1937.1	1	III
			BOUL										1938.1	1938.3	1	III
			BOUL										1942.7	1943.0	1	III
			BOUL							1951.6	1954.0	2	1951.6	1954.0	2	IIIG
			SGMR										1951.9	1953.6	1	IIIG
			HARV							1952	1954	3	1952	1954	3	IIIG
			BOUL										1956.2	1957.2	2	III
	2031	2400	CULG				2031	2400	1	2031	2400	1				IS
			CULG				2031	2400								IIIN,W
			CULG							2031	2400	1				IIIS
			BOUL										2033.6	2033.7	1	III
			BOUL										2054.4	2054.5	1	III
			BOUL										2057.4	2057.5	1	III
			BOUL										2107.5	2107.8	1	III
			BOUL										2110.2	2110.4	1	III
			BOUL							2221.0	2400.0	1	2221.0	2400.0	1	IIIN
			CULG							2251	2252.5	1				IIIG
			CULG							2349		2				IIIB
05			CULG				0000	0731								IIIN,W
			CULG							0000	0625	1				IIIS
	0000	0731	CULG				0000	0731	1	0000	0349	1				IS
	0000	0055	HARV													
			CULG							0049	0050	2				IIIG,V
			CULG							0052.5	0053	2				IIIG
			BOUL										0054.0	0054.8	2	III
	0000	0130	BOUL										0055.6	0055.8	1	III
			BOUL							0057.5	0058.2	2	0057.5	0058.2	2	IIIG
			CULG				0128.5	0130	1	0128.5	0130	2				IIIG,V,U
			CULG				0135.5		1	0135.5		1				IIIB,U
			CULG							0312.5		2				IIIB
			CULG				0334.5	0335.5	1	0334.5	0335.5	2				IIIG,V
			CULG							0349	0731	2				IS,CONT
			CULG				0435.5	0436.5	2	0435.5	0436.5	2				IIIG
			CULG				0439.5	0440	2	0439.5	0441	2				IIIG,V
			CULG				0527.5	0529.5	1	0527.5	0529.5	2	0528	0529	1	IIIG,V
	0517	1727	WEIS							0527.8	0529.0	1				IIIG
			WEIS							0555.0	1704.0	1				IN
			CULG							0625	0731	2				IIIS
			WEIS							0827.6	0828.3	2				IIIG
			WEIS							0834.3	0834.5	1				IIIG
			WEIS							0917.5	0922.5	2				IIIGG
			WEIS							1114.6	1114.9	3				IIIG
	1300	2400	HARV							1301	1320	1				IN
			HARV				1307	1314	1							IN
	1230	2400	BOUL										1347.7	1348.3	2	III
			BOUL							1435.0	1740.0	1	1435.0	1740.0	1	CONT
			HARV				1527	1528	1							IIIG
			HARV							1610	2027	1	1610	2027	1	IIIN
			BOUL							1629.7	1630.5	2	1629.7	1630.5	2	III
	1016	2307	SGMR										1629.9	1630.5	1	III
			HARV							1630		1	1630		1	IIIG
			BOUL										1811.5	1812.0	1	IIIG
			BOUL										1813.7	1814.2	1	IIIG
			BOUL										1817.6	1817.7	1	III
			HARV				1826	1833	3	1826	1840	3	1826	1840	3	IIIGG,V,U
			BOUL							1828.0	1843.8	3	1828.0	1843.8	3	IIIG
			SGMR										1828.8	1838.8	3	IIIG
			HARV							1833	1842	2	1840	1841	2	II
			HARV							1843	1901	3	1846	1901	2	II
			BOUL							1843.0	1857.0	3	1843.0	1857.0	3	II
			SGMR										1845.0	1855.0	2	II

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

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SEP. 1973	TIMES OF OBSERVATION		STATION	EVENTS													SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND				
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.		
05			BOUL							1847.0	1850.0	3	1847.0	1850.0	3		III
			BOUL										1857.0	1901.0	3		III
			SGMR										1857.5	1900.0	1		IIIG
			HARV							1923	1925	3	1923	1925	3		IIIG
			BOUL							1923.0	1924.7	2	1923.0	1924.7	2		IIIG
			SGMR										1923.7	1924.8	2		IIIG
			BOUL							2002.4	2400.0	1	2002.4	2400.0	1		IIIN
			CULG							2030	2400	1					IIIS
	2030	2400	CULG				2030	2400	1	2030	2310	2					IS
			CULG				2030	2400	1								IIIN
			CULG							2140		2					IIIB,U
			CULG							2146	2149	2					IIIG
			CULG							2230	2233	2					IIIG,U
			BOUL							2231.5	2232.8	2	2231.5	2232.8	2		III
			CULG							2251	2252.5	2					IIIG,V,U
			CULG							2300	2301	2					IIIG,V,U
			CULG							2310	2400	1					IS
06	0000	0730	CULG				0000	0725	1	0000	0725	1					IS
			CULG				0000	0725	1								IIIN
			CULG							0000	0725	1					IIIS
			BOUL							0001.3	0047.6	1	0001.3	0047.6	1		IIIN
			CULG							0002	0005	1					UNCLF
			CULG							0004		1					IIIB,U
			CULG				0008	0009	1	0007.5	0010	2	0008	0009	1		IIIGG,V
	0000	0851	HARV							0008	0010	2					IIIGG
			BOUL							0008.0	0010.0	2	0008.0	0010.0	2		III
			CULG							0015	0040	2					IIIGN
			CULG							0055	0057	2					UNCLF
			CULG				0108	0110.5	1	0108	0110.5	2					IIIGG,U
			CULG				0117	0118	1	0117.5	0119	2					IIIG,V
			CULG							0125.5	0130	2					IIIGG,V
			CULG							0132		2					IIIB
			CULG				0138.5	0142	1	0137	0143	2	0138	0143	1		IIIGG,V
			CULG				0146.5	0147.5	1	0145	0147	2	0146	0147.5	1		IIIG
			CULG				0148	0153	1	0148	0153	2	0148	0152	1		IIIGG,V
			CULG							0311	0312	2					IIIG
			CULG							0346		1					IIIB,U
			CULG							0535.5	0536.5	2					IIIG,U
	0521	1045	MEIS							0536.3	0536.5	2					IIIG
			MEIS							0554.0	0554.1	1					IIIB
			MEIS							0557.4	0558.4	1					IIIG
			CULG							0557.5	0558.5	2					IIIG,U
			CULG							0559		2					IIIB,U
			CULG							0602.5	0603	2					IIIG,U
			MEIS							0602.7	0603.0	1					IIIG
			MEIS							0751.6	0758.6	2					IIIGG
			MEIS							0857.0	0857.3	1					IIIG
	1055	1724	MEIS							1234.0	1650.5	2					IN
	1301	2400	HARV				1301	1640	1	1301	1700	1					I
			HARV				1410	1411	3	1410	1411	3					IIIB
			MEIS							1410.4	1410.5	2					IIIB
			BOUL										1411.2	1905.0	1		IIIN
	1017	2305	SGMR										1446.8	1447.1	1		III
			MEIS							1525.3	1525.4	2					IIIB
			HARV				1621	1622	1	1621	1622	1					IIIG
			MEIS							1621.5	1622.7	1					IIIG
			HARV							1706	1707	1					IIIG
			HARV							1716	1906	2	1716	1906	2		IIIN
			HARV							1851	1853	1	1851	1853	1		IIIG
			HARV							1856	1858	1	1856	1858	1		IIIGG
			BOUL							1906.0	2110	2	1906.0	2110	2		CONT
			BOUL							1906.0	2129	2					IS
			HARV							1922	2350	1	1941	2058	1		I
			SGMR										1956.4	1956.6	1		III
			CULG							2030	2400	1					IIIS
	2030	2400	CULG				2030	2400	1	2030	2240	2					IS
			BOUL										2118.0	2336.0	1		IIIN
			CULG				2237.5	2238.5	1								IIIG
			CULG							2240	2400	1					IS
			CULG							2311		2					IIIB
			CULG							2316		2					IIIB,U
07	0000	0730	CULG				0000	0730	1	0000	0730	1					IN
	0000	0047	HARV							0000	0040	1					IN
	0000	0130	BOUL										0036.1	0036.3	1		III
			CULG				0148	0150	1	0148	0150	1					IIIG
			CULG				0210	0211	1	0209.5	0211.5	1					IIIG
			CULG				0332	0713		0000	0730						IIIN,W
			MEIS							1008.1	1537.5	1					IN
	0522	1720	MEIS							1110.9	1111.3	1					IIIG
			MEIS							1138.3	1141.5	3					IIIGG
			MEIS							1153.2	1158.1	2					IIIG,V
	1018	2303	SGMR										1153.8	1155.0	3		III
			SGMR										1155.0	1200.0	3	IV	
			SGMR										1200.0	1207.0	3	II	
			MEIS							1200.7	1213.8	2					IIIG,RS
			SGMR										1207.0	1215.1	2	IV	
			SGMR										1215.1	1351.4	2		CONT
			MEIS							1217.4	1217.5	1					IIIB

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				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND				
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	
07			WEIS							1218.0	1221.1	2				UNCLF
			SGMR										1220.0	1222.0	2	II
			SGMR										1220.1	1221.4	2	II
			SGMR										1221.8	1226.1	2	II
			WEIS							1225.1	1225.3	1				UNCLF
	1230	2400	BOUL										1235.0	1404	2	IV
			BOUL										1435.4	1435.6	1	III
			BOUL										1918.5	1918.6	1	III
			CULG							2035	2400					IIIN,W
	2035	2400	CULG				2035	2400	1	2035	2400	1				IN
			BOUL										2146.9	2147.4	1	III
	1300	2400	HARV				2201	2225	1							IN
			BOUL										2319.8	2319.9	1	III
			BOUL										2339.9	2340.3	1	III
08			CULG							0000	0730					IIIN,W
	0000	0730	CULG				0000	0730	1	0000	0730	1				IN
	0000	0043	HARV				0029	0043	2							I
	0000	0130	BOUL										0058.4	0058.5	1	III
			CULG				0225	0225.5	1							IIIG
			CULG							0238	0238.5	1				IIIG
			CULG							0419	0420	2				IIIG,U
	0524	0642	WEIS													
	0646	1721	WEIS													
			CULG							0713		1				IIIB,U
	1020	2301	SGMR													
	1301	2400	HARV				1301	1314	1							I
	1230	2400	BOUL										1405.0	1405.2	1	III
			HARV				1720.2	1721.8	2	1720.5	1725	2				II
			BOUL										1758.5	1758.8	1	III
			BOUL										1930.1	1931.4	1	IIIG
			BOUL							2011.0	2011.2	1	2011.0	2011.2	1	III
	2031	2400	CULG				2035	2400		2105	2336					IS,W
			CULG							2037	2038.5	2				IIIG,U
			BOUL										2037.5	2037.8	1	III
			CULG							2048	2357.5	1				IIIN
			CULG							2151	2152.5	1				IIIG
			CULG							2230	2230.5	2				IIIB
			BOUL										2230.1	2230.3	1	III
09	0000	0729	CULG				0000	0729	1	0000	0729	1				IS
			CULG							0000	0729	1				IIIN
	0000	0042	HARV													
	0000	0130	BOUL										0016.8	0017.0	1	III
			CULG							0221.5	0225.5	1				IIIG,U
			CULG							0223		2				IIIG
			CULG							0345.5	0347.5	1				IIIG,U
	0531	1351	WEIS							0540.0	1351.0	3				IN
			CULG							0631		1				IIIB
			CULG							0635	0635.5	1				IIIG
			WEIS							0635.4	0635.5	1				IIIB
	1021	2258	SGMR													
	1300	2400	HARV							1300	1715	1				I
	1230	2400	BOUL										1324.2	1324.4	1	III
			BOUL										1622.2	1622.4	1	III
			HARV							1720	1800	1				IN
			HARV							1932	2400	1				IN
			CULG							2036	2400	1				IIIN
	2030	2400	CULG				2036	2355	1	2037.5	2324	1				I
			HARV				2146	2148	2							IIIGG
			BOUL										2337.4	2337.7	1	III
10	0000	0041	HARV													
	0000	0730	CULG							0000	0048	1				IIIN
			CULG				0006.5	0650	1	0022.5	0538.5	1				IN
			CULG							0036	0036.5	2				IIIG
	0000	0130	BOUL										0036.6	0036.8	1	III
			CULG							0307	0307.5	2				IIIG
			CULG				0522.5		1	0522.5		2				IIIB
	1023	2259	SGMR													
	0537	1714	WEIS							1205.0	1607.0	3				IS
	1300	2400	HARV							1300	1611	1				I
			HARV							1611	2018	1				IN
	1230	2400	BOUL							2047.3	2048.1	3				III
	2029	2400	CULG							2100	2251	1				IIIN
			CULG							2125.5	2127.5	2				IIIGG
11	0000	0040	HARV													
	0000	0743	CULG							0002	0743	1				IIIN
	0000	0130	BOUL										0007.3	0008.0	1	III
			CULG							0110.5	0111.5	1				IIIG,U
			CULG							0316.5		1				IIIB,U
			CULG							0648		1				IIIB
			CULG							0653.5	0654.5	1				IIIG,U
			CULG				0657.5	0700.5	1	0657	0700.5	2				IIIGG,V,U
			CULG							0701.5	0721	2				IIM
	0531	1318	WEIS							0702.8	0705.7	1				II
			CULG				0703	0705	1	0703	0705	1				IIIG
			WEIS							0706.1	0706.7	1				IIIG
	1023	2256	SGMR													

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				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	
11	1322	1716	WEIS													
	1230	2345	BOUL										1641.0	1641.2	1	III
	1300	2400	HARV							1745	2241	1				IN
			BOUL										1905.5	1905.9	1	III
			BOUL										1907.1	1907.4	1	III
	2029	2400	CULG				2029	2344.5	1	2037.5	2216	1				IS
			CULG				2041	2156	1	2041	2156	1				IIIN
			CULG							2219		1				IIIB,U
			BOUL							2219.2	2219.7	1	2219.2	2219.7	1	III
			CULG							2258	2301.5	2				IIIG,U
			BOUL							2258.5	2259.5	1	2258.5	2259.5	1	IIIG
12	0000	0039	HARV													
	0000	0728	CULG				0412	0532	1							I
			CULG							0414						IIIB,W
	0535	1706	WEIS													
			CULG							0600.5	0601	1				IIIG
	1024	2254	SGMR													
	1230	2400	BOUL													
	1310	2309	HARV													
	2043	2400	CULG													
	2351	2400	HARV													
13	0000	0037	HARV													
	0000	0130	BOUL													
	0534	1018	WEIS													
	0000	0728	CULG							0545.5						IIIB,W
			CULG							0559		1				IIIB
			CULG							0609	0611.5	2				IIIG,V
	1021	1708	WEIS													
	2039	2400	CULG							2047	2047.5					IIIG,W
			CULG							2057	2058	2	2057	2057.5	1	IIIG,V
	1301	2400	HARV							2057	2058	3	2057	2058	3	IIIG
	1025	2253	SGMR										2057.3	2057.6	2	III
	1230	2400	BOUL							2057.4	2058.1	2	2057.4	2058.1	2	III
14	0000	0130	BOUL													
	0000	0035	HARV													
	0000	0728	CULG													
	0542	1706	WEIS													
	1301	2400	HARV													
	1026	2251	SGMR										1627.7	1628.0	1	III
	2028	2400	CULG							2257		1				UNCLF
			CULG							2257	2400	1				I
			CULG							2317						IIIB,W
	1230	2400	BOUL							2338.0	2400	2	2338.0	2400	2	IV
15	0000	0130	BOUL							0000	0049.0	2	0000	0049	2	IV
	0000	0727	CULG							0000	0441	1				I
	0000	0033	HARV													
	0530	0743	WEIS													
	0310	1702	WEIS													
	1027	2249	SGMR													
	1230	2400	BOUL													
	1318	2400	HARV													
	2027	2400	CULG													
16	0000	0032	HARV													
	0000	0130	BOUL													
	0000	0727	CULG							0206	0207					IIIB,W
			CULG							0340.5						IIIB,W
			CULG							0420.5						IIIB,W
	0537	1610	WEIS													
			CULG							0644						IIIB,W
	1028	2247	SGMR													
	1230	2400	BOUL													
	1318	2400	HARV													
	2027	2400	CULG													
17	0000	0727	CULG													
	0000	0831	HARV													
	0000	0130	BOUL													
	1317	2400	HARV							1511	1515	2				UNCLF
	1230	2400	BOUL							1511.7	1544.9	2	1511.7	1544.9	2	CONT
	1029	2246	SGMR										1511.9	1547.4	2	CONT
			HARV							1515	1523	1				I
			BOUL							1516.5	1519.7	1				II
			HARV							1517	1521	2	1518	1519	2	II
			SGMR										1517.0	1519.3	2	II
			HARV							1525	1531	1				UNCLF
	2027	2400	CULG													
18	0000	0726	CULG													
	0000	0030	HARV													
	0000	0100	BOUL													
	0737	1654	WEIS													
	1030	2244	SGMR													
	1317	2400	HARV													
	1230	2400	BOUL										1936.7	1936.9	1	III
	2048	2400	CULG													

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				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	
19	0000	0725	CULG													
	0000	0100	BOUL													
	0000	0829	HARV													
	1031	2242	SGMR													
	0542	1657	WEIS							1048.4	1043.5	2				IIIB
	1230	2400	BOUL													
	1317	2400	HARV													
	2026	2400	CULG													
20	0000	0028	HARV													
	0000	0100	BOUL													
	0543	1227	WEIS													
	0000	0725	CULG							0549						IIIB,W
			CULG							0641						IIIB,W
	1032	2237	SGMR													
	1230	2400	BOUL													
	1317	1715	HARV							1340	1341	3				IIIG,U
	1254	1656	WEIS							1340.4	1340.9	2				IIIG,U
	1718	2400	HARV													
	2038	2400	CULG													
21	0000	0026	HARV													
	0000	0100	BOUL													
	0000	0725	CULG							0128	0129					IIIG,U,W
	0544	1657	WEIS													
	1031	2238	SGMR													
	1230	1600	BOUL													
	1318	2400	HARV													
	2025	2400	CULG							2031	2033					IIIG,W
22	0000	0025	HARV													
	0000	0100	BOUL													
	0000	0725	CULG							0200	0254					IN,W
			CULG							0510	0510.5	1				IIIG
			CULG							0514	0515.5	1				IIIG,V,U
			CULG							0530	0531	2				IIIG,U
	0545	1016	WEIS							0632.9	0633.3	1				IIIB
			CULG							0633	0634	2				IIIG,V
			CULG							0633	0636	1				IIIG
			CULG							0640	0645	1				IIIG
	1020	1659	WEIS													
	1034	2238	SGMR													
	1230	2400	BOUL													
	1317	2400	HARV													
	2024	2400	CULG													
23	0000	0023	HARV													
	0000	0100	BOUL													
	0000	0725	CULG							0259.5		1				IIIB,U
	0547	1659	WEIS													
	1036	2235	SGMR										1748.7	1752.3	3	V
	1230	2400	BOUL							1748.7	1753.0	3	1748.7	1753.0	3	III
	1317	2400	HARV				1749	1751	1	1748	1752	3	1748	1753	3	IIIGG,V
			BOUL							1757.2	1809.2	1	1757.2	1809.2	1	II
			HARV							1750	1803	1	1802	1803	1	II
			HARV							1808	1811	1				UNCLF
			BOUL							1808.3	1819.5	1	1808.3	1819.5	1	II
			HARV				2034	2035	1	2034	2035	3	2034	2035	3	IIIG,U
	2025	2400	CULG				2034	2035	1	2034	2036.5	2				IIIG,U
			BOUL							2034.1	2034.6	2	2034.1	2034.6	2	III
			SGMR										2034.2	2034.6	2	III
			CULG							2113.5	2115.5	1				IIIG
			BOUL							2113.8	2115.0	2	2113.8	2115.0	2	IIIG
			CULG							2127.5	2129.5	2	2128	2128.5	1	IIIG,U
			HARV							2128	2129	3	2128		3	IIIG
			BOUL							2128.0	2129.3	2	2128.0	2129.3	2	III
			SGMR										2128.0	2128.3	2	III
			CULG							2251.5	2253	2				IIIG,U
			HARV							2252	2253	2				IIIG
			BOUL							2252.0	2253.0	2	2252.0	2253.0	2	III
			CULG							2355	2355.5					IIIG,W
24	0000	0100	BOUL													
	0000	0022	HARV													
	0000	0724	CULG							0210						IIIB,W
			CULG							0212.5						IIIB,W
			CULG							0413.5		1				IIIB
			CULG							0501		1				IIIB
			CULG				0537.5	0543	1	0537	0543	2				IIIGG,U
			CULG				0546.5	0548	1	0546	0548.5	2				IIIGG
			CULG							0615.5	0617.5	1				IIIG
			CULG							0625.5	0629.5	1				IIIG
			CULG							0637.5	0638.5	1				IIIG
			CULG				0639.5	0641.5	1	0639.5	0643.5	2	0641	0642.5	1	IIIGG,V,U
	0548	0711	WEIS							0639.8	0642.1	2				IIIG
			CULG							0701.5	0703	1				IIIG,U
			CULG							0716.5	0722					IIIGG,W
			CULG							0717.5	0718	2				IIIG,U
	0812	1642	WEIS							1130.7	1131.0	1				IIIG
	1300	2400	BOUL							1417.2	1417.4	1	1417.2	1417.4	1	III

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SEP. 1973	TIMES OF OBSERVATION		STATION	EVENTS												SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	
24	1037	2233	SGMR										1756.6	1759.2	2	IIIG
			BOUL							1756.7	1800.0	3	1756.7	1800.0	3	IIIG
	1317	2400	HARV				1759	1800	1	1756	1800	3	1756	1800	3	IIIGG,V
	2024	2110	CULG													
	2149	2400	CULG													
25	0000	0021	HARV													
	0000	0100	BOUL													
	0000	0723	CULG							0030						IIIB,W
			CULG							0046.5	0047	1				IIIG
			CULG							0049.5						IIIB,W
			CULG							0054	0055.5	2				IIIG,U
			CULG							0058.5	0221					IIIN,W
			CULG							0101.5	0326.5	1				I
			CULG				0206	0207.5	1	0206	0208.5	2	0206.5	0207.5	1	IIIG,V,U
			CULG				0339	0340	1	0339	0341.5	2				IIIG,V,U
			CULG							0434.5	0436.5	2				IIIG
			CULG							0528		1				IIIB
			CULG							0555.5	0602	1				IIIGG
			CULG							0605	0607.5	2				IIIG,U
			CULG							0651	0653.5	2				IIIGG
	0555	1642	WEIS							0652.6	0652.8	1				IIIG
	1038	2229	SGMR													
	1317	2400	HARV													
	1300	2400	BOUL							1816.3	1816.4	1				III
			BOUL										1824.1	1824.3	1	III
			BOUL										2003.5	2004.8	1	IIIG
	2024	2400	CULG							2125.5		2				IIIB
			BOUL							2135.9	2136.5	2	2135.9	2136.5	2	III
26	0000	0100	BOUL													
	0000	0020	HARV													
	0000	0723	CULG				0507	0612.5		0526	0712					IW
	0555	0704	WEIS													
			CULG							0624	0626	1				IIIG
	0708		WEIS							0904.7	0905.7	1				IIIG
	0708		WEIS							0907.5	0908.7	1				IIIG
	1300	2400	BOUL										1423.3	1423.4	1	III
			BOUL										1425.0	1425.8	1	III
			BOUL										1642.9	1643.1	1	III
	1039	2229	SGMR										1753.0	1753.7	1	III
	2024	2400	CULG							2039.5	2045	2				IIIGG
	1317	2400	HARV							2040	2043	3	2040	2043	3	IIIG
			BOUL							2040.0	2043.0	2	2040.0	2043.0	2	IIIG
			SGMR										2040.6	2040.9	2	III
27	0000	0100	BOUL													
	0000	0019	HARV													
	0000	0723	CULG							0306.5	0309	2				IIIG
			CULG							0456.5		1				IIIB
			CULG							0503		2				IIIB
			CULG							0506.5	0507	1				IIIG
			CULG							0554		1				IIIB
			CULG							0603.5		1				IIIB
			CULG				0647.5	0648	1	0646.5	0649.5	2				IIIGG,U
	0555	1618	WEIS							0647.5	0647.8	1				IIIB
			WEIS							0729.8	0730.0	1				IIIB
			WEIS							0834.8	0835.1	1				IIIG
	1300	2400	BOUL										1344.6	1344.9	1	III
			WEIS							1355.0	1355.2	2				IIIG
	1040	2228	SGMR										1355.3	1407.3	3	IIIG
			BOUL										1355.3	1355.8	2	III
	1317	2400	HARV				1356	1357	1	1355	1357	3	1355	1357	3	IIIG
			WEIS							1356.5	1357.1	2				IIIG
			BOUL							1356.7	1357.9	2	1356.7	1357.9	2	III
			BOUL										1400.5	1401.1	1	III
			BOUL							1402.3	1402.8	1	1402.3	1402.8	1	III
			BOUL										1403.1	1403.2	1	III
			BOUL										1404.4	1404.6	1	III
			BOUL										1407.0	1407.4	1	IIIG
			BOUL										1631.8	1631.9	1	III
	1632	1638	WEIS													
			BOUL										1652.8	1653.1	1	III
			HARV							1706	1751	1				IN
			BOUL										1718.7	1718.9	1	III
			BOUL										1916.3	1916.7	1	III
			BOUL										1927.8	1928.2	1	III
	2023	2218	CULG													
	2248	2400	CULG													
28	0000	0100	BOUL													
	0000	0018	HARV													
	0000	0722	CULG							0057		1				IIIB
			CULG				0115.5		1	0115.5		1				IIIB
			CULG							0225	0226.5	1				IIIG
			CULG							0319.5	0320.5	2				IIIG
			CULG							0518	0519	1				IIIG
			CULG				0532.5	0533	1	0532.5	0533	1				IIIB
			CULG				0539	0539.5	1	0539	0539.5	1				IIIG
			CULG				0541	0541.5	1	0541	0541.5	2				IIIG,U

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

SEPTEMBER 1973

SEP. 1973	TIMES OF OBSERVATION		STATION	EVENTS												SPECTRAL TYPE
				CENTIMETRIC BAND			DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	START UT	END UT	INT.	
28	0556	1639	WEIS							0823.6	0823.8	1				IIIG
	1041	2226	SGMR													
	2024	2400	CULG							2032.5		2				IIIB
			CULG				2115	2200	1							I
			CULG				2126	2128	1							IIIG
	1317	2400	HARV				2127	2142	1	2116	2206	1				IN
			CULG							2149		1				IIIB
	1300	2400	BOUL										2149.5	2149.6	1	III
			CULG							2227.5		1				IIIB
			BOUL										2228.1	2228.5	1	III
29	0000	0030	BOUL													
	0000	0017	HARV													
	0000	0722	CULG				0443	0451	1							I
	0557	1518	WEIS													
	1042	2224	SGMR													
	1540	1633	WEIS													
	1300	2400	BOUL										1742.6	1742.8	1	III
	1317	2400	HARV							1930	2022	1				IN
	2023	2400	CULG				2324.5	2400	1	2329	2400	1				I
			HARV							2325	2400	2				I
30	0000	0016	HARV							0000	0016	1				I
	0000	0030	BOUL													
	0000	0722	CULG				0000	0359	1	0000	0411	1				I
			CULG				0137.5	0140	1	0138	0140	1				IIIG
			CULG				0323.5	0325.5	1	0324.5	0325	1				IIIG,RS
			CULG				0549	0550	1							IIIG,U
	0602	1633	WEIS							0643.0	1510.0	1				IN
	1043	2222	SGMR													
	1317	2400	HARV							1405	1620	1				IN
			HARV							1620	1835	1				I
			HARV				1655	1715	1							IN
	1300	2400	BOUL										1703.4	1703.8	1	III
			HARV							1835	1954	1				IN
	2023	2400	CULG				2110.5	2111.5								IIIG,W
			CULG							2119		1				IIIB,U
			CULG							2227.5	2228					IIIG,W

The symbols used in connection with the spectral type in describing the important bursts are as follows:

- B = Single burst
- G = Small group (< 10) of bursts
- GG = Large group (> 10) of bursts
- C = Underlying continuum (particularly with type I)
- S = Storm in the sense of intermittent but apparently connected activity
- N = Intermittent activity in this period
- U = U-shaped burst of Type III
- RS = Reverse slope burst
- DP = Drifting pairs
- DC = Drifting Chains
- H = Herringbone
- W = Weak
- P = Pulsations
- CONT = Continuum
- UNCLF = Unclassified activity

Note: Beginning in May the frequency coverage at the Harvard Radio Astronomy Station, Fort Davis, Texas, has been extended from 10-2000 MHz to 10-4000 MHz.

SELECTED SOLAR EVENTS

SEPTEMBER 1973

Culgoora

UT Date 1973. September	HELIOGRAPH EVENT							Spectral Type	REMARKS
	Start (UT)	End (UT)	Freq. (MHz)	Positions: Central Dist. ($R_\odot$)	Positions: Position Angle (Deg.)	Polarization	Intensity (1-3)		
3	0000	0430	80	0.8	150	R	1)	I	
			160	0.8	150	L	1)		
	0157	0158	43.25	0.7	150	-	2	III G	*
4	0229	0230	160	1.1	180	0	2	III G, U	
	0250	0251	43.25	0.5	40	-)			
			80	0.5	40	0)	2	III G	*
			160	0.4	150	0)			
5	0049	0052	43.25	0.5	0	-)			
			80	0.5	0	0)	1	III G, V	* Varying source positions
			160	0.5	0	0)			
6	0108	0111	43.25	1.0	70	-)			
			80	0.5	90	0)	2	III GG, U	*
			160	0.3	160	0)			
	0135	0150	43.25	(1.2	330	-			
				(1.0	70				
			80	(0.4	330	0	2	III GG, V	Several similar events, overlapping in time
				(0.5	90				
			160	(0.2	300	0			
				(0.3	160				
25	0206	0210	(43.25	1.1	300	-)		III G, V, U	
	and		(80	1.0	300	0)	3		
	0339	0341	(160	0.9	300	0)		III G, V, U	
27			43.25)			-)			
	0306	0307	80)	0.3	130	0)	2	III G	* Complex source structure
			160)			0)			

Days without Heliograph observations: Nil (80 and 160 MHz)

Intermittent observations at 43.25 MHz.

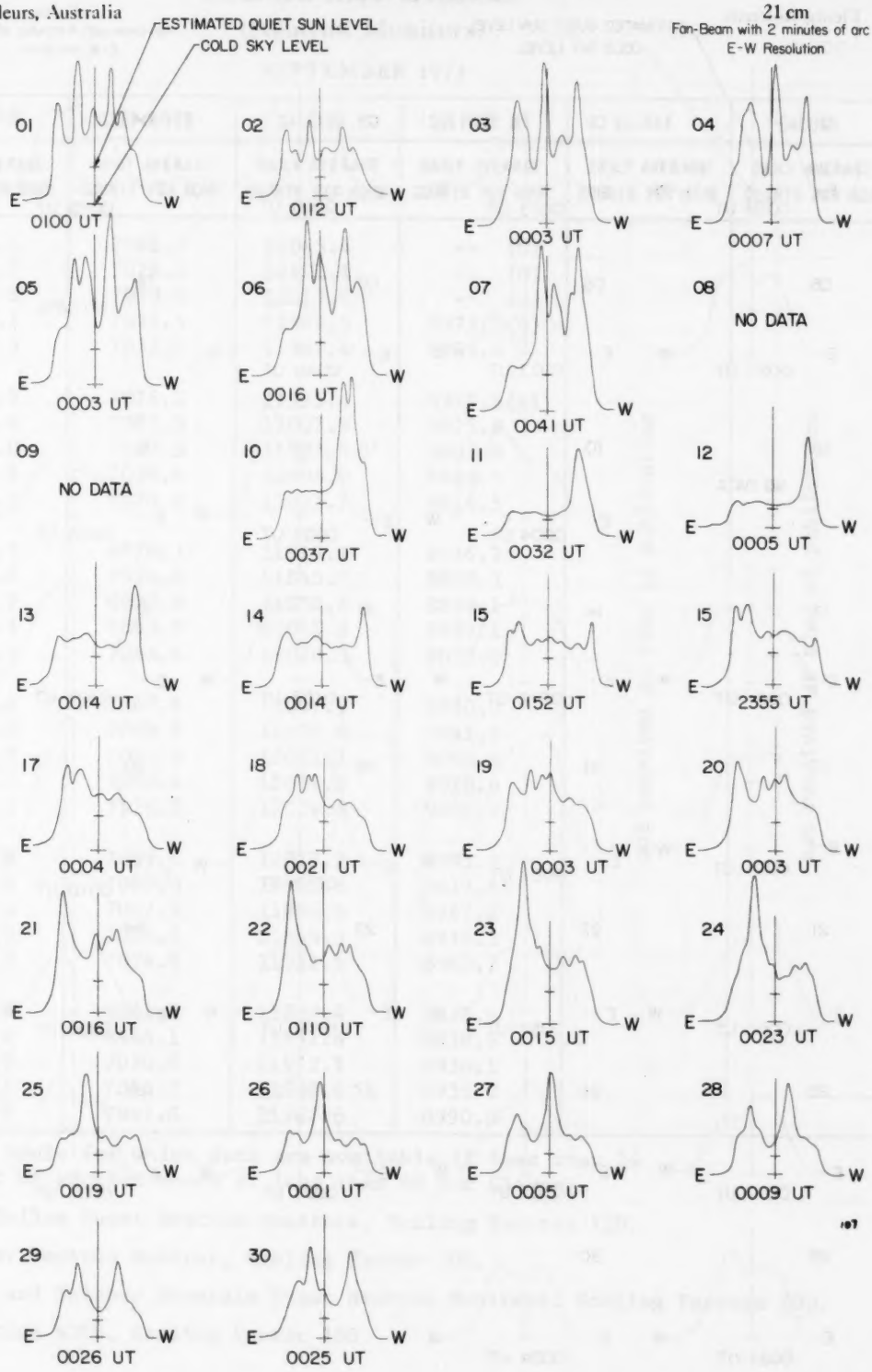
* Other type III observed at same position during day.

EAST-WEST SOLAR SCANS

SEPTEMBER 1973

Fleurs, Australia

21 cm
Fan-Beam with 2 minutes of arc
E-W Resolution



EAST-WEST SOLAR SCANS

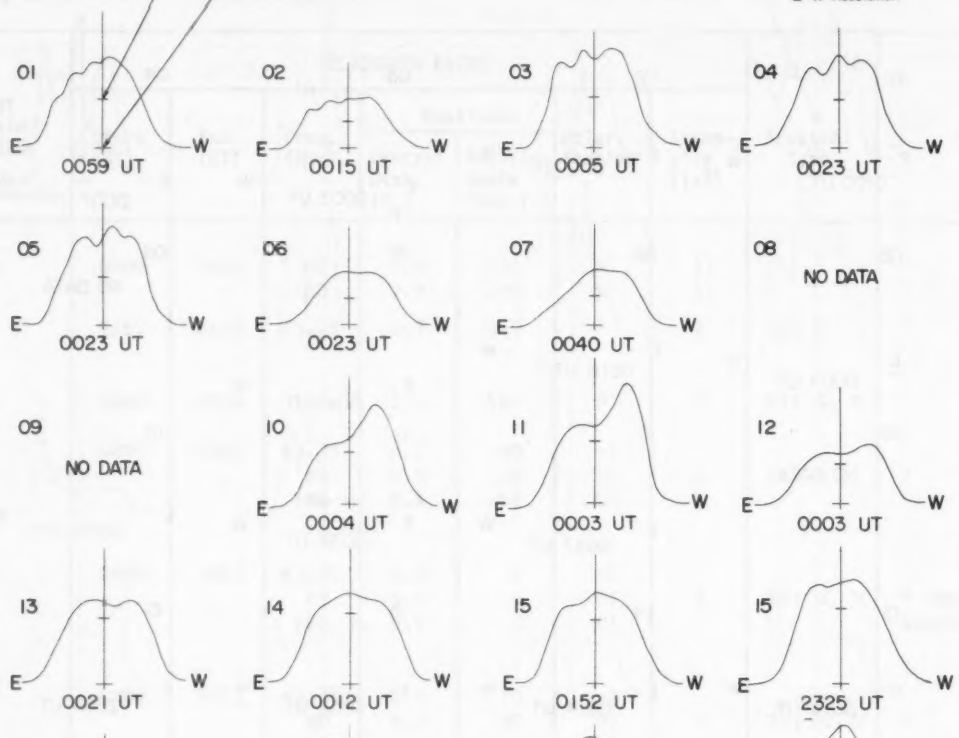
SEPTEMBER 1973

Fleurs, Australia

ESTIMATED QUIET SUN LEVEL

COLD SKY LEVEL

43 cm
Fan-Beam with 4 minutes of arc
E-W Resolution



COSMIC RAY INDICES

(Neutron Monitors)

SEPTEMBER 1973

Sept. 1973	THULE DAILY AVERAGE COUNTS PER HOUR	DEEP RIVER DAILY AVERAGE COUNTS PER HOUR	CALGARY DAILY AVERAGE COUNTS PER HOUR	SULPHUR MT. DAILY AVERAGE COUNTS PER HOUR	CLIMAX DAILY AVERAGE COUNTS PER HOUR	DALLAS DAILY AVERAGE COUNTS PER HOUR
1	4643.1	7068.9	12045.4	-- (0)	not received at time of publication	not received at time of publication
2	4661.7	7078.2	12101.1	-- (0)		
3	4636.6	7050.0	12013.6	-- (0)		
4	4631.1	7021.5	11987.6	8975.2(6)		
5	4627.5	7032.4	11987.4	8963.6		
6	4622.5	7075.2	11995.4	8979.6(21)		
7	4606.6	7081.3	12007.9	8975.8		
8	4635.0	7102.3	11987.9	8995.9		
9	4609.8	7036.8	11906.0	8869.5		
10	4533.9	6975.2	11833.1	8814.5		
11	4545.3	6979.3	11819.1	8834.2		
12	4576.6	7016.4	11845.0	8859.3		
13	4556.5	6990.8	11839.5	8850.1		
14	4623.3	7063.9	12048.3	8985.1		
15	4622.3	7083.6	12070.3	9022.0		
16	4558.0	7067.8	12007.9	8990.0		
17	4575.8	7069.5	12000.0	8991.5		
18	4604.7	7082.0	12021.1	9005.8		
19	4603.7	7090.4	12036.5	9020.6		
20	4619.1	7126.2	12029.4	9062.2		
21	4612.6	7099.6	12017.2	8995.3		
22	4615.6	7080.3	11965.6	9013.5		
23	4565.4	7027.9	11866.9	8962.1		
24	4560.5	7016.7	11849.3	8915.3		
25	4578.0	7024.8	11921.5	8940.7		
26	4554.5	6961.3	11838.4	8838.6		
27	4537.0	6966.1	11831.6	8838.9		
28	4593.0	7030.0	11942.1	8930.1		
29	4604.1	7048.2	11949.4	8935.0		
30	4645.8	7087.8	11987.6	8990.0		

( ) Number of hours for which data are available if less than 24 (or number of section hours if less than 40 for Climax).

Churchill and Dallas Super Neutron Monitors, Scaling Factors 120.

Deep River Super Neutron Monitor, Scaling Factor 300.

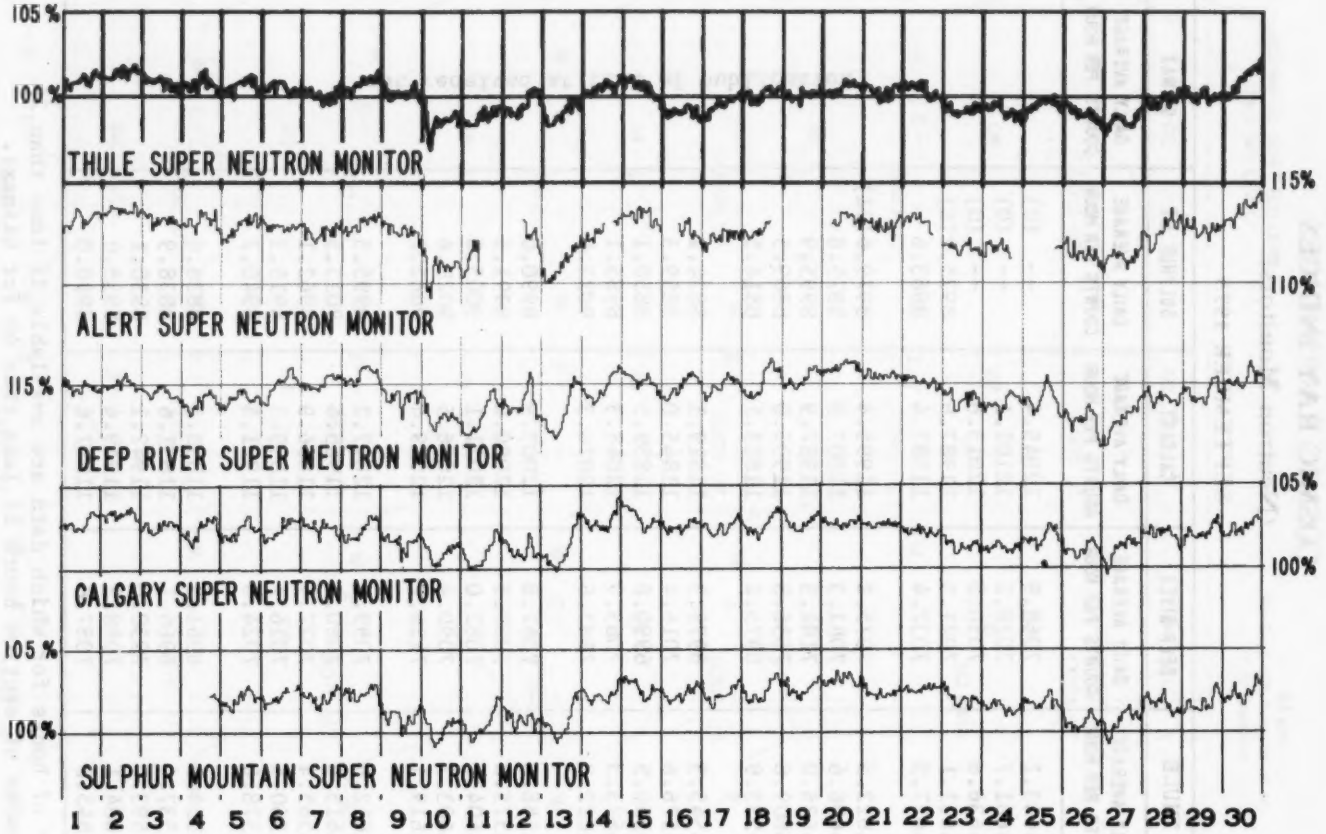
Thule, Calgary and Sulphur Mountain Super Neutron Monitors, Scaling Factors 100.

Climax IGC Station B305, Scaling Factor 100.

COSMIC RAY INDICES

(Pressure Corrected Hourly Totals)

SEPTEMBER 1973

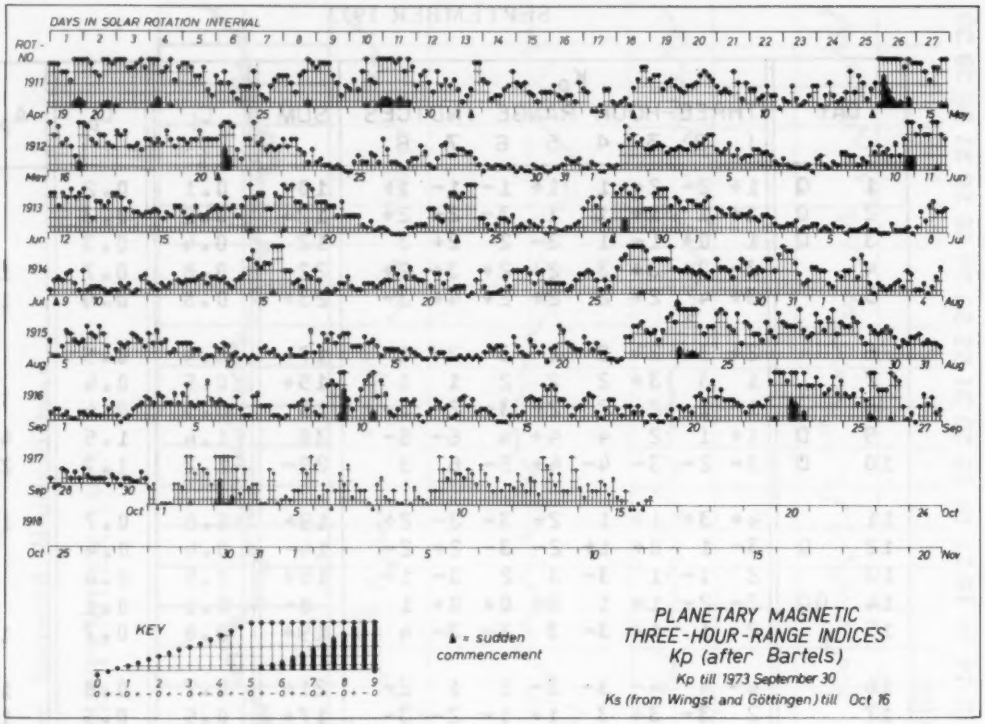

105 %
100 %
THULE SUPER NEUTRON MONITOR
115%
110%
ALERT SUPER NEUTRON MONITOR
115 %
DEEP RIVER SUPER NEUTRON MONITOR
105%
100%
CALGARY SUPER NEUTRON MONITOR
105 %
100 %
SULPHUR MOUNTAIN SUPER NEUTRON MONITOR
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

GEOMAGNETIC ACTIVITY INDICES

SEPTEMBER 1973

DAY		K_p THREE-HOUR RANGE INDICES 1	2	3	4	5	6	7	8	SUM	C_i	C_p	A_p
1	Q	1+	2-	2-	1	1+	1-	1-	1+	10-	0.1	0.2	5
2	Q	1+	1	1+	1	1	3-	2-	2+	12+	0.2	0.3	6
3	Q	1	0+	1-	1	2-	2	2+	3	12	0.4	0.3	6
4		3-	2+	3+	3	2+	2+	3+	2+	22-	0.8	0.7	12
5		3+	4	2+	2	2+	2+	4+	3-	23+	0.8	0.9	15
6		2+	3-	2+	2	2	3	2-	1	17	0.4	0.5	9
7		1	3	3+	2	2	2	1	1	15+	0.5	0.4	8
8		1-	1	2	2	2+	3-	2-	3-	15	0.5	0.4	8
9	D	1+	1	2	4	4+	4	6-	8-	30	1.4	1.5	44
10	D	3-	2-	3-	4-	4+	5-	6	3	29-	1.2	1.2	27
11		4+	3+	1+	1	2-	3-	3-	2+	19+	0.8	0.7	12
12	Q	3-	1	0+	1+	2-	3-	2+	2-	14-	0.4	0.4	7
13		2	1-	1	3-	3	2	3-	1+	15+	0.5	0.4	8
14	QQ	2-	2-	1+	1	0+	0+	0+	1	8-	0.1	0.1	4
15		2	1	1+	3-	3	3-	3-	4	19+	0.8	0.7	12
16		4-	4	4-	3-	3-	2	1	2-	21+	0.7	0.8	14
17		2	3-	3+	3	1+	1-	2-	3-	17+	0.5	0.5	10
18	Q	3-	2-	1	2	2	1+	2	1+	14	0.4	0.3	7
19	QQ	0+	1	1	0+	0+	1	2-	1-	6+	0.1	0.1	3
20		2	2-	2	1+	3	3+	3-	4-	20-	0.8	0.7	12
21		4+	3	4-	3-	3-	3-	2+	2	23+	0.8	0.9	15
22		1+	2	2	2+	2	3-	4+	5+	22	1.0	0.9	17
23	D	5	5	4+	7	7-	4	6	4	42	1.7	1.7	63
24	D	4	5-	4	3+	4-	5-	3+	4+	32	1.3	1.2	28
25	D	3+	3	3+	2+	4-	3-	6-	5+	29+	1.3	1.2	27
26		4-	4-	4-	5+	5-	4+	2	1-	28	1.3	1.2	25
27		1+	0+	2	3+	2+	3	1+	2-	15+	0.5	0.5	8
28	QQ	1	0	0+	2	2-	1	2-	1	9-	0.2	0.1	4
29	QQ	2	1+	1	1	1	1	0+	1+	9	0.1	0.2	4
30	QQ	1	0+	1	1	1-	1-	2-	1	7+	0.1	0.1	4
										MEAN	0.66	0.64	14

GEOMAGNETIC ACTIVITY INDICES



DAILY AVERAGE INDICES Ap

	1972			1973								
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7	98	6	11	17	22	91	17	3	19	12	5
2	5	42	5	2	14	40	54	12	20	11	16	6
3	4	13	6	2	16	14	26	9	14	7	7	6
4	7	6	4	11	7	4	9	8	19	4	8	12
5	2	3	2	21	9	6	7	5	10	4	9	15
6	2	7	3	20	15	28	4	13	8	3	13	9
7	8	7	10	8	14	8	4	16	4	3	8	8
8	4	7	6	15	25	7	8	17	6	13	9	8
9	4	7	4	16	21	11	7	12	9	8	5	44
10	6	4	2	28	11	8	4	7	33	6	4	27
11	19	7	3	24	8	8	24	6	34	6	4	12
12	21	6	8	25	9	14	3	7	30	6	5	7
13	21	4	30	16	4	5	46	20	24	8	10	8
14	25	4	9	8	7	4	57	80	18	8	8	4
15	8	17	29	9	8.	3	9	37	13	32	4	12
16	12	31	33	8	10	12	60	32	11	15	3	14
17	2	12	13	5	16	6	51	27	18	6	2	10
18	11	9	8	3	11	20	46	22	30	6	4	7
19	34	11	7	10	10	82	42	21	38	10	6	3
20	14	27	4	29	9	80	46	23	18	9	9	12
21	15	9	2	22	49	58	42	46	6	5	6	15
22	13	13	14	5	46	53	44	20	3	6	12	17
23	18	11	30	13	48	50	25	15	10	14	22	63
24	11	5	13	22	54	49	14	4	34	6	46	28
25	5	8	4	20	31	50	14	6	6	9	29	27
26	8	14	5	20	34	32	28	8	4	36	18	25
27	7	11	2	33	44	28	26	10	4	29	26	8
28	11	12	4	33	20	22	26	8	21	14	28	4
29	21	9	15	22		16	59	3	41	18	20	4
30	20	4	19	15		15	18	3	29	19	13	4
31	29		13	6		33		4		26	9	
MEAN	12	14	10	16	20	25	30	17	17	12	12	14

HOURLY EQUATORIAL Dst VALUES (PROVISIONAL)

NASA/GODDARD SPACE FLIGHT CENTER

SEPTEMBER 1973

(Time-UT)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	-1	1	3	2	-1	-3	-3	-2	-2	3	6	8	7	4	4	4	7	6	8	6	5	4	0	-1
2	7	13	14	14	12	13	14	17	21	25	23	23	21	18	19	19	17	11	9	11	9	4	-1	-2
3	1	3	4	7	6	9	9	11	11	13	15	13	12	10	12	8	10	9	7	6	4	0	-3	-3
4	-5	-7	-9	-4	-1	-5	-14	-14	-11	-7	1	-1	-5	-7	-6	-11	-9	-9	-10	-15	-12	-11	-10	-13
5	-12	-13	-13	-15	-18	-19	-20	-19	-15	-12	-12	-12	-13	-17	-16	-16	-17	-17	-20	-24	-22	-15	-12	-5
6	-1	-6	-12	-13	-13	-10	-13	-11	-6	-2	-4	-10	-15	-17	-14	-21	-22	-19	-12	-9	-8	-8	-8	-6
7	-2	-1	0	0	-7	-13	-10	-6	-5	1	7	8	3	-3	-4	-2	-2	-3	-4	-4	-5	-7	-7	-5
8	-1	0	2	0	-1	0	-4	-3	0	2	2	3	1	3	10	2	-3	-3	2	5	5	2	-1	3
9	9	10	10	11	12	13	14	18	6	-8	-1	6	5	-12	-10	-4	-3	-16	-12	-24	-56	-73	-70	-51
10	-40	-40	-43	-42	-39	-33	-26	-17	-21	-17	-10	-22	-30	-25	-25	-24	-19	-19	-32	-31	-21	-15	-15	-24
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24	-23	-21	-21	-17	-21	-20	-17	-19	-15	-13	-13	-11	-7	-10	-18	-23	-20	-22	-15	-18	-18	-17	-19	-21
25	-16	-16	-19	-21	-25	-27	-26	-24	-19	-18	-10	-10	-11	-16	-9	-4	-4	-10	-12	-17	-21	-23	-26	-18
26	-6	-5	-5	-9	-14	-18	-30	-40	-45	-53	-50	-65	-75	-79	-72	-61	-51	-43	-37	-33	-28	-25	-22	-18
27	-19	-16	-17	-22	-24	-24	-18	-16	-19	-20	-24	-21	-23	-23	-23	-25	-23	-20	-16	-15	-15	-14	-10	-9
28	-8	-7	-6	-4	-4	-3	-4	-3	-2	-5	-4	-6	-3	1	2	-2	-2	-2	-2	-3	1	3	6	8
29	6	4	5	4	3	5	4	4	6	8	8	9	9	9	9	8	7	5	6	9	13	17	17	17
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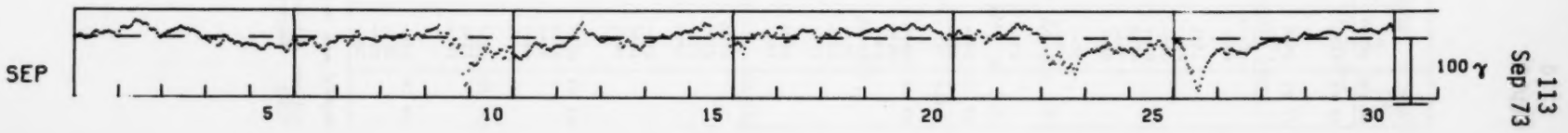


PRINCIPAL MAGNETIC STORMS

SEPTEMBER 1973

DATE 1973 MO. DA	STORM TIME UT START	STORM TIME UT END MO. DA. HR	OBS.	GEO-MAG. LAT.	SUDDEN COMMENCEMENT TYPE	AMPLITUDES D(°)	AMPLITUDES H(γ)	AMPLITUDES Z(γ)	C FIGURE DEGREE OF ACTIVITY	MAXIMAL ACTIVITY ON K-SCALE 0 TO 9 MO. DA.	3-HOUR PERIOD	K INDEX	RANGES D (°)	RANGES H (γ)	RANGES Z (γ)	STORM NUMBERS
09 08	1230	09 10 01	HYDE	7.6N	..	..	..	..	M	09 09	5,7,8	5	6	130	30	44
09 09	0906	09 11 06	SITK	60.0N	SC	+ 6	-27	- 7	MS	09 09	8	6	60	330	370	44
	07--	09 11 08	NEWP	55.1N	..	..	..	..	M	09 09	8	5	33	162	274	44
										09 10	4,6					44
	12---	09 11 03	WITT	54.1N	..	..	..	..	MS	09 09	8	7	42	300	105	44
	08--	09 11 08	TUCS	40.4N	..	..	..	..	M	09 09	7,8	5	15	130	45	44
										09 10	6,7	5				44
	1529	09 09 24	SJUA	29.9N	SC	+ 0.5	+ 6	..	M	09 09	7	6	6	123	39	44
	09--	09 11 06	MBOR	21.3N	..	..	..	..	MS	09 09	7,8	6	4	99	19	44
	03--	09 09 23	ALIB	09.5N	..	..	..	..	M	09 09	5,7,8	5	5	119	45	44
	03--	09 09 23	ANNA	01.5N	..	..	..	..	M	-- --	-	-	4	156	59	44
	0745	09 11 06	GUAM	4.0N	..	..	..	..	M	09 10	0,4	5	10	100	30	44
	03--	09 09 23	TVAN	01.1S	..	..	..	..	M	-- --	-	-	3	188	73	44
	08--	09 11 03	PMOR	18.6S	..	..	.8	..	M	09 09	4,5	5	7	90	60	44
										09 10	4,5	5				44
	07--	09 10 01	HRMN	33.3S	..	..	..	..	M	09 09	7,8	5	24	132	118	44
	07--	09 11 02	GNAN	43.2S	..	..	..	..	MS	09 09	7	6	17	90	110	44
	0730	09 10 20	TOOL	46.7S	..	..	..	..	M	09 09	7,8	5	27	100	50	44
										09 10	4,5	5				44
	07--	09 11 06	KGLN	57.3S	..	..	..	..	S	09 09	8	8	--	--	--	44
09 10	0954	09 11 05	SJUA	29.9N	SC	+ 0.2	+ 8	+ 2	M	09 10	7	5	10	68	28	44
	0952	09 11 20	HYDE	7.6N	SC	- 0.2	+13	- 1	M	09 10	4,6,7	4	7	62	38	44
09 22	08--	09 25 20	COLL	64.6N	..	..	..	..	S	09 23	5	9	575	2940	2240	45
	08--	09 25 01	SITK	60.0N	..	..	..	..	S	09 23	4	9	190	1540	820	45
	07--	09 26 18	NEWP	55.1N	..	..	..	..	MS	09 23	4,5	7	75	395	452	45
	16---	09 26 17	WITT	54.1N	..	..	..	..	MS	09 23	7	7	45	290	95	45
	21--	09 26 17	FRED	49.6N	..	..	..	..	MS	09 23	4	6	36	190	90	45
	22--	09 26 21	BOUL	49.0N	..	..	..	..	MS	09 23	4	6	39	145	140	45
	19--	09 26 17	TUCS	40.4N	..	..	..	..	MS	09 23	4,5	6	22	130	35	45
										09 26	4	6				45
	1800	09 24 04	SJUA	29.9N	..	..	..	..	M	09 23	4	5	6	95	29	45
	18--	09 26 04	MBOR	21.3N	..	..	..	..	M	09 22	8	5	3	59	11	45
										09 23	7	5	2	60	15	45
										09 25	7	5	5	58	16	45
	0500	09 23 22	HYDE	7.6N	..	..	..	..	MS	09 23	4,5	6	7	190	28	45
	2151	09 26 17	GUAM	4.0N	..	..	..	..	MS	09 23	0,5	6	10	200	30	45
	19--	09 26 16	APIA	16.1S	..	..	..	..	M	09 23	4,5	5	7	123	35	45
	18--	09 25 01	HRMN	33.3S	..	..	..	..	M	09 22	8	5	27	162	108	45
										09 23	4	6				45
	21--	09 26 18	GNAN	43.2S	..	..	..	..	MS	09 23	4,5	7	37	160	240	45
	1800	09 24 24	TOOL	46.7S	..	..	..	..	MS	09 23	4,5	7	37	240	70	45
	16--	09 25 03	KGLN	57.3S	..	..	..	..	S	09 23	4,5	8	--	--	--	45
09 23	02--	09 23 19	ALIB	09.5N	..	..	.8	..	MS	09 23	4	6	7	139	31	45
	02--	09 23 19	ANNA	01.5N	..	..	..	..	MS	-- --	-	-	4	188	84	45
	02--	09 23 19	TVAN	01.1S	..	..	..	..	MS	-- --	-	-	2	218	135	45
	04--	09 26 18	PMOR	18.6S	..	..	..	..	MS	09 23	4,5	6	8	170	90	45
09 25	2054	09 26 20	SITK	60.0N	SC	+ 3	+14	+ 3	S	09 26	5	8	150	950	590	46
	1140	09 26 22	HYDE	7.6N	..	..	..	..	MS	09 26	4,5	6	6	198	26	46
	18--	09 26 17	HRMN	33.3S	..	..	..	..	M	09 25	7,8	5	19	127	51	46
09 26	01--	09 26 18	ALIB	09.5N	..	..	..	..	M	09 26	4,6	5	5	159	35	46
	01--	09 26 18	ANNA	01.5N	..	..	..	..	M	-- --	-	-	3	212	67	46
	01--	09 26 18	TVAN	01.1S	..	..	..	..	M	-- --	-	-	3	251	112	46
	10--	09 26 17	KGLN	57.3S	..	..	..	..	MS	09 26	5,6	7	--	--	--	46

Reports were received from the following observatories:

College Witteveen Fredericksburg San Juan Honolulu Hyderabad Annamalainagar Port Moresby Gnangara
Sitka Newport Boulder Tucson M'Bour Alibag Guam Trivandrum Hermanus Toolangi
Port-aux-Francais

SUDDEN COMMENCEMENTS AND SOLAR FLARE EFFECTS

SEPTEMBER 1973

PRELIMINARY REPORT ON RAPID MAGNETIC VARIATIONS (by Dr. A. Romana)

The meaning of the station symbols is given in the IAGA-Bulletins nr. 12 and 32. Times of ssc, si and bay-commencements are mean values. If given by ten or more stations they are underlined.

Sudden commencements followed by a magnetic storm or a period of storminess (ssc)

none

Sudden impulses found in the magnetograms (si)

10 1752 A: SI AC; B: WN MA? IK PP; C: EB SS

Rapid variations in form of bays (b, bs, bp, bps)

04 1955 bs: A: NU KS - bp: A: MA FU CI; B: WI EB TL MB KG; C: NI - bps: A: LG IK; B: LE ES WN LM (ssc: A: SO)

05 2006 bs: A: SO NU LG KS - bp: A: CI TL; B: EB - bps: A: WN MA FU IK LM; B: LE ES WI NI

22 2152 bs: A: KS - bp: A: EB MB; B: MA KG - bps: A: IK; B: WN TL LM (si: A: LG)

23 1805 bp: A: MA EB; B: WN TL SS KG; C: KA - bps: A: IK; B: LM (ssc: A: SO)

25 1824 bs: A: KS - bp: A: MA TL; B: EB KG - bps: A: IK; B: WN LM (ssc: A: SO; C: CI)

Giant pulsations (pg)

08	2130 - 2155	FUA	12	1050 - 1105	NU (65s 10γ ; nucl. expl.)
09	1530 - 1555	FUA	16	0450 - 0505	FUA
10	1030 - 1805	FUA	23	1045 - 1200	FUA

Solar-flare effects (sfe)

Effects confirmed by ionospheric or solar observations are underlined.

04 1502 - 1525 WN? HU

07 1156 - 1240 WN WI (si: C: KS - b: A: MB)

RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

SEPTEMBER 1973

North Atlantic

SEP. 1973	WHOLE DAY INDICES NORTH ATLANTIC	ADVANCE FORECASTS (JC-REPORTS) FOR WHOLE DAY	NORTH ATLANTIC 6-HOURLY QUALITY FIGURES 00 TO 06	06 TO 12	12 TO 18	18 TO 24	SHORT-TERM FORECASTS ISSUED ABOUT ONE HOUR IN ADVANCE OF 02	08	14	20	GEOMAGNETIC INDICES K_{FR} HALF DAY (1)	(2)	A_{FR} OBSERVED
01	6o	6	6o	5+	7-	6+	5	5	6	7	2	1	4
02	7-	6	7-	7-	7-	6+	6	6	6	7	1	2	6
03	6+	6	6+	6+	6+	7-	6	6	6	7	1	2	5
04	7-	7	7-	7-	7-	7-	6	6	6	6	3	2	11
05	6+	7	6+	6o	7-	7-	6	6	7	7	3	3	15
06	6o	6	6-	6+	6o	6+	6	6	6	6	3	1	10
07	6o	6	6o	6+	6o	6+	5	6	6	6	3	2	9
08	6+	7	6o	7-	7-	6+	6	6	6	6	2	2	8
09	6+	7	6+	6-	7o	6o	6	6	6	6	2	(4)	22
10	6-	6	6o	5o	6-	6+	5	5	6	5	2	(4)	15
11	6+	6	7-	5+	6o	7o	5	5	6	6	3	2	13
12	6+	6	6+	6+	6+	7o	6	6	6	7	2	2	7
13	7-	6	7-	6+	7o	7o	6	6	6	7	1	2	5
14	6+	7	6+	6+	6+	7-	7	6	6	6	2	0	3
15	7-	7	7-	7-	7-	7-	6	6	6	6	2	3	10
16	7-	7	6o	6+	7-	7-	6	6	6	6	3	2	12
17	6+	7	6+	5+	7o	7o	6	6	6	6	3	2	11
18	6+	6	7-	6-	7-	7-	6	6	6	6	2	2	7
19	7-	5	6+	7-	7o	7o	6	6	6	6	1	1	2
20	7-	5	7-	7-	7o	7o	6	6	6	6	2	2	8
21	6+	4	6+	6+	7-	6o	6	6	6	6	(4)	2	15
22	6+	4	6o	6+	7-	6o	6	6	6	6	2	3	12
23	5o	4	5+	4+	5o	6-	6	5	5	5	(5)	(4)	40
24	5+	5	5-	4o	6o	6o	4	4	5	5	(4)	3	22
25	6o	5	6-	6o	7-	6-	5	4	5	6	3	(4)	19
26	5+	5	5o	5o	6-	6-	5	5	5	5	(4)	2	18
27	6-	5	6-	5o	6o	6+	5	5	6	6	2	2	7
28	7-	5	7-	6o	7-	7o	6	6	6	6	1	1	3
29	7-	6	7-	7-	7-	7-	6	6	6	6	1	1	3
30	7-	6	7-	7-	7-	6+	6	6	7	6	1	1	3

RADIO PROPAGATION QUALITY FIGURES AND FORECASTS

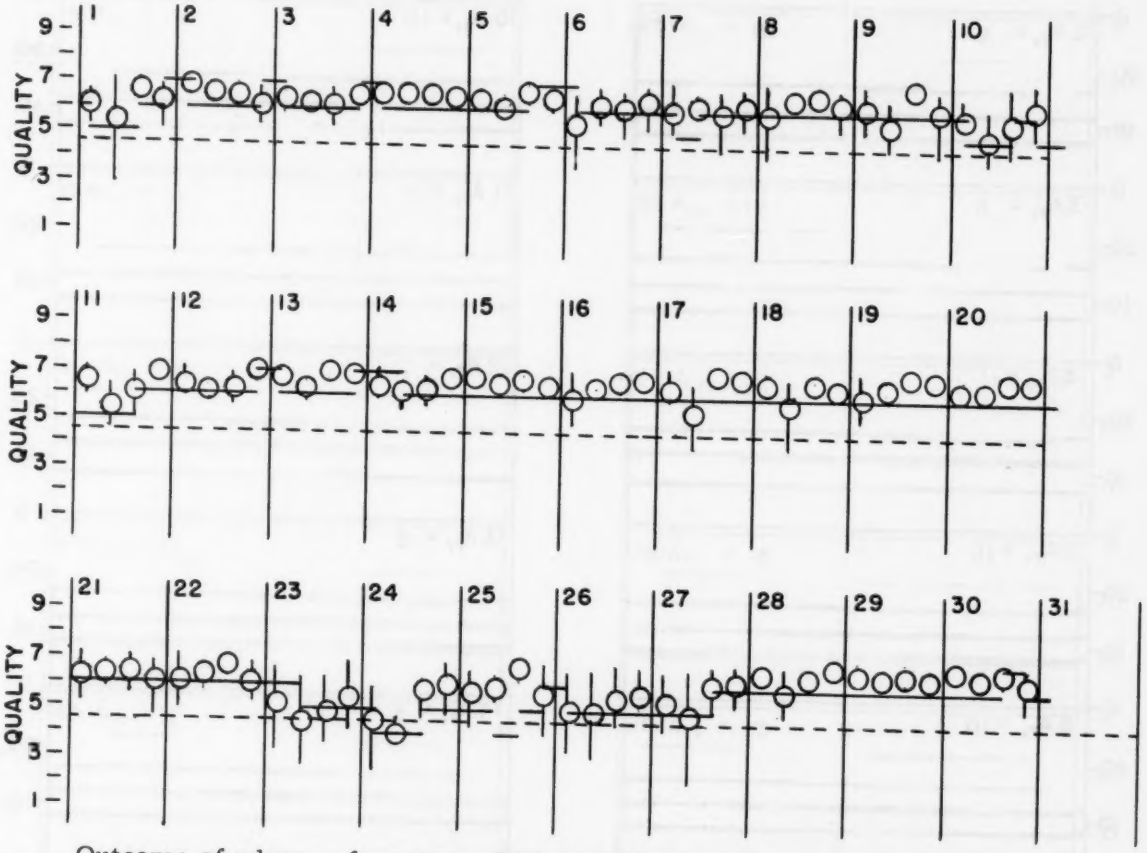
SEPTEMBER 1973

North Atlantic

– Short term forecast
o Quality figure

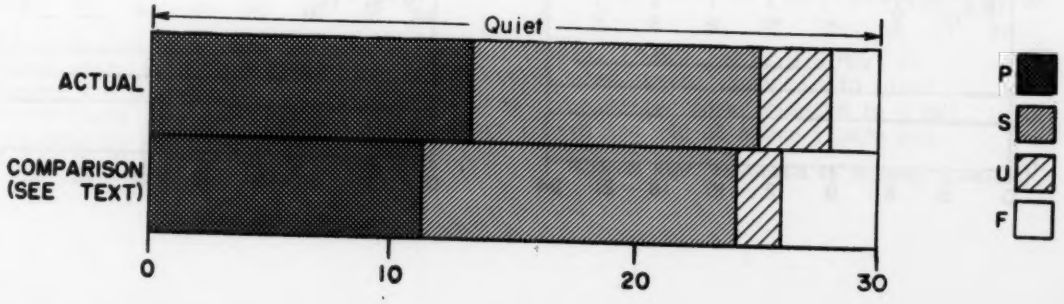
| range of reports

Day



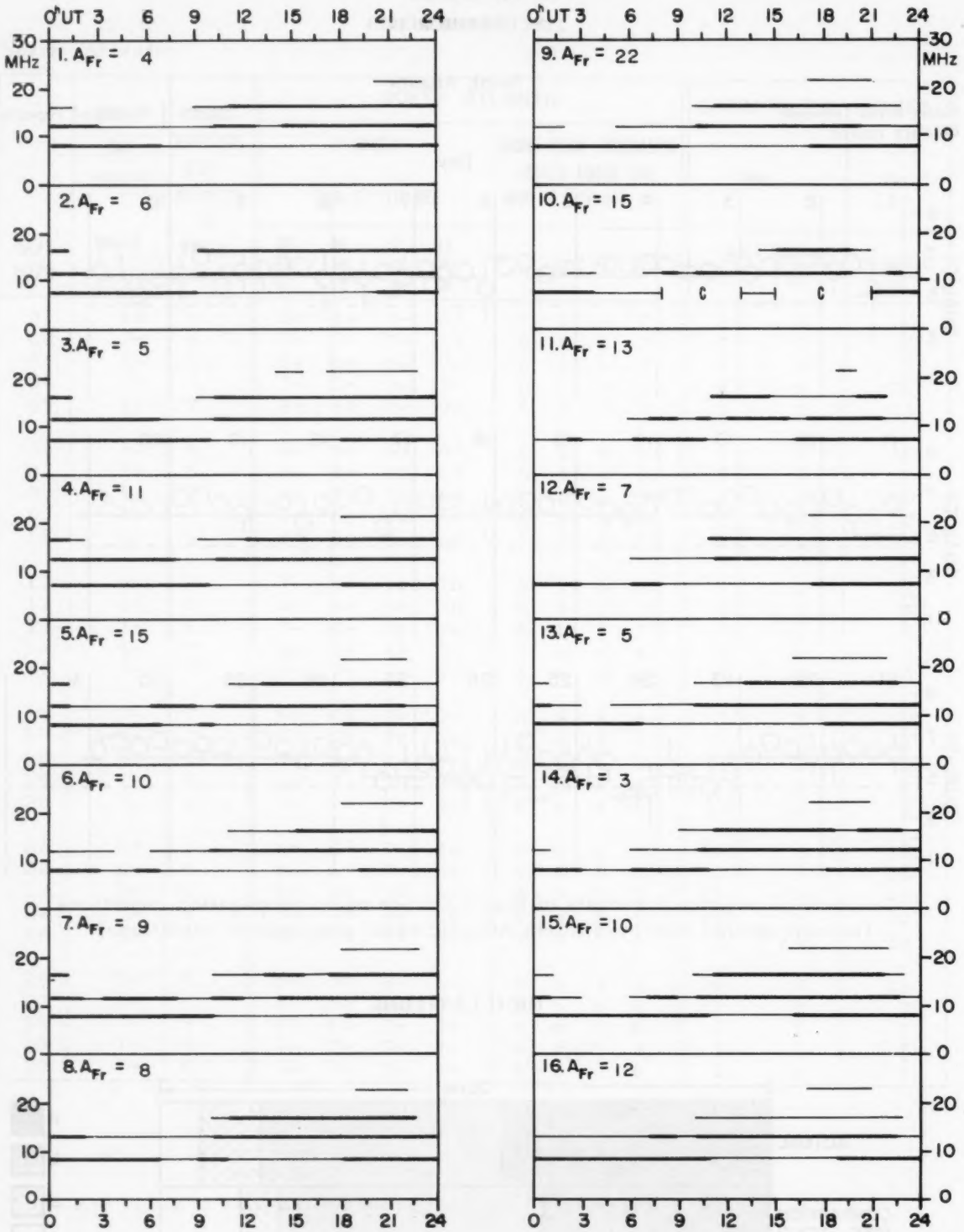
Outcome of advance forecasts of High Latitude radio propagation conditions
(scored against observed North Atlantic radio propagation conditions)

HIGH LATITUDE



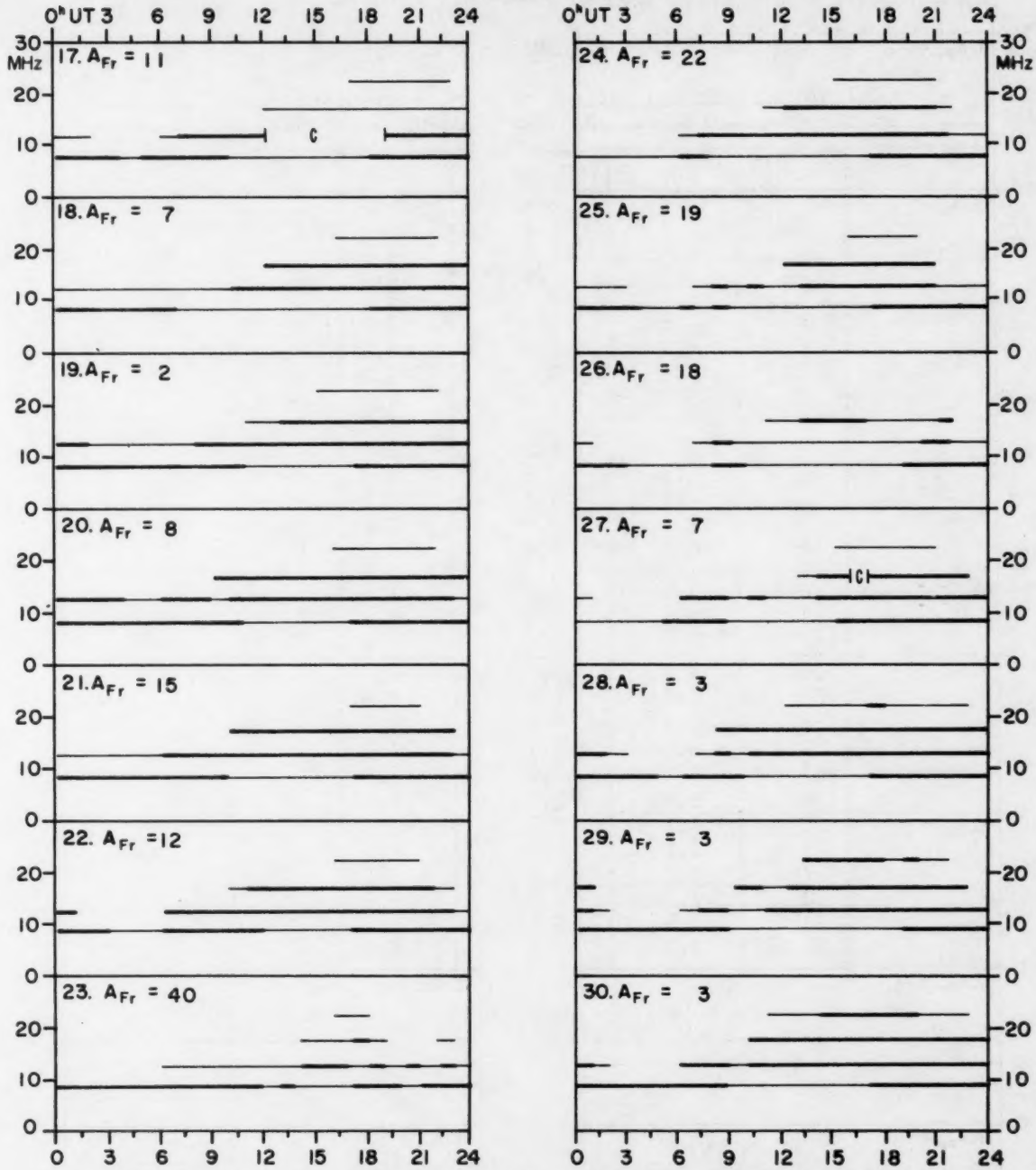
TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

SEPTEMBER 1973



TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

SEPTEMBER 1973



Field strengths from four frequencies, 8.542, 12.813, 17.084 and 22.378 MHz, as observed on a Lüchow - Halifax circuit are represented above. Heavy solid lines represent field strengths ≥-12 dB above 1 μv/m (transmitter power reduced to 1 kW). Observed field strengths between -12 dB above 1 μv/m and -40 dB above 1 μv/m are represented by the fine line.

Adapted from Observations by Deutsche Bundespost

RADIO PROPAGATION QUALITY INDICES

SEPTEMBER 1973

Calculated from the records of four frequencies
on the circuit Lüchow - Halifax (Germany - Canada)

Date	Day	Night	D+N
1	6.4	7.3	6.1
2	6.3	7.2	6.0
3	7.0	7.1	6.5
4	6.7	5.2	5.5
5	4.8	3.3	3.9
6	5.4	6.1	5.1
7	5.5	5.4	4.8
8	5.7	4.8	4.9
9	5.5	3.5	4.5
10	3.4	2.8	3.0
11	4.3	2.6	3.4
12	7.0	4.6	5.4
13	6.0	3.9	4.6
14	6.1	4.8	5.0
15	6.2	3.7	4.9
16	4.3	4.2	4.0
17	4.8	4.7	4.2
18	6.4	6.2	5.7
19	7.1	7.3	6.5
20	7.4	5.4	6.2
21	6.3	4.0	5.1
22	6.3	3.7	4.9
23	2.2	2.5	2.3
24	5.0	2.7	4.0
25	4.1	2.7	3.5
26	3.1	2.8	2.9
27	5.7	5.5	5.1
28	7.7	6.2	6.5
29	7.5	5.9	6.5
30	8.7	7.3	7.4

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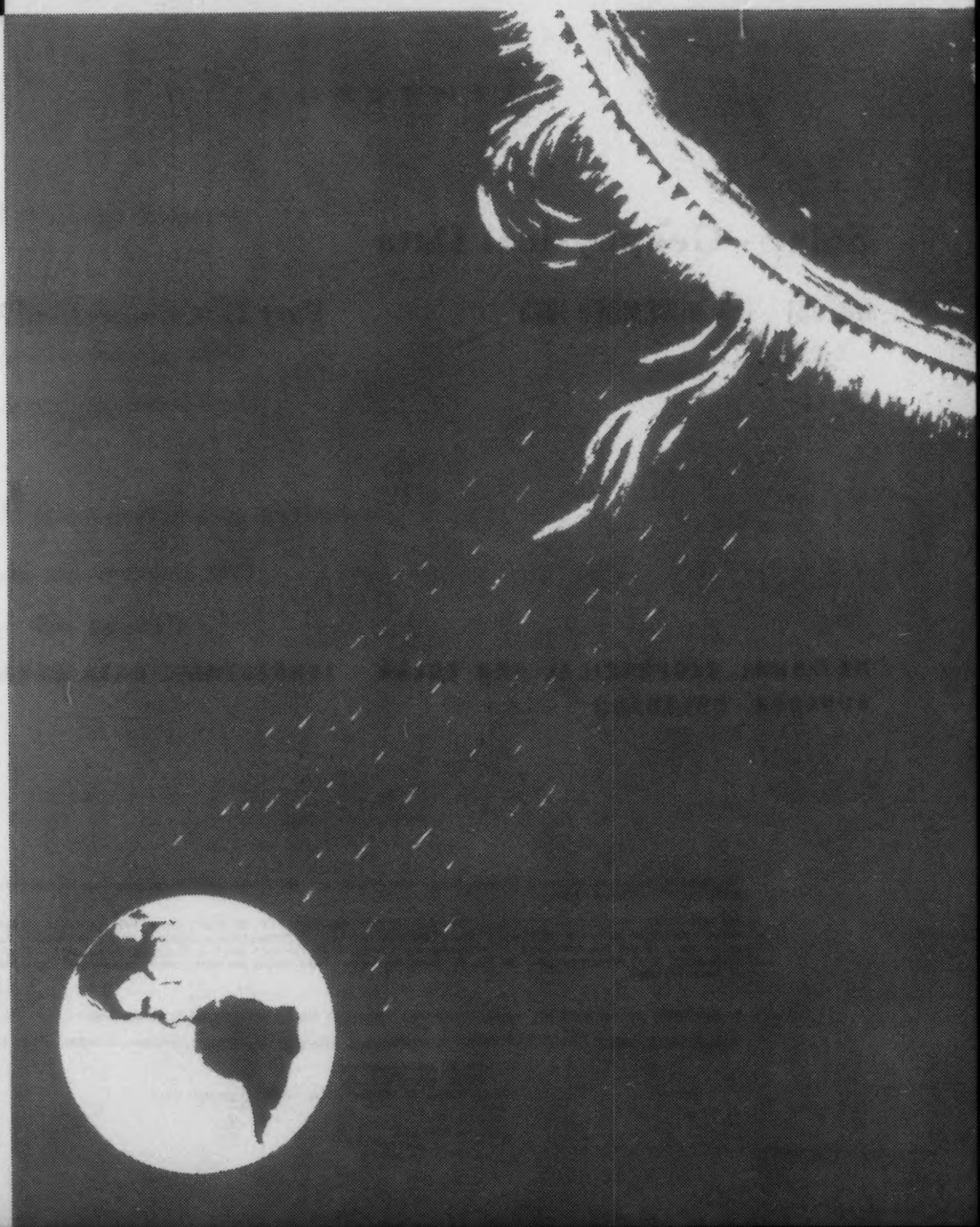
SOLAR-GEOPHYSICAL DATA
(comprehensive reports)

U. S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Environmental Data Service

NOVEMBER 1973



NUMBER 351-PART II
DATA FOR
MAY 1973
APRIL 1973
& MISCELLANEA

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Solar - Geophysical Data

NO. 351 NOVEMBER 1973

Part II (Comprehensive Reports)

DATA FOR
MAY 1973
APRIL 1973
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NATIONAL GEOPHYSICAL AND SOLAR - TERRESTRIAL DATA CENTER
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* * * * *

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*CRPL-FB 135 through 269
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299 Part I or 299 Part II to number of current issue.

SOLAR - GEOPHYSICAL DATA

No. 351

Issued in two parts

Hope I. Leighton, Editor

J. Virginia Lincoln, Director
Solar - Terrestrial Data Services Division

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A.10c	21 cm East-West Solar Scans (Fleurs)	337	338	339	340	341	342	343	344	345	346	347	348	349	351	351
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C.4aa	10-2000 MHz - (Fort Davis)	338	339	340	341	342	343	344	345	346	347	348	349	350	351	
C.4b	7.6-80 MHz - (University of Colorado)	338	339	340	341	342	343	344	345	346	347	348	349	350	351	
C.4d	8-8000 MHz - (Culgoora)	338	339	340	341	342	343	344	345	346	347	348	349	350	351	
C.4e	30-1000 MHz - (Weissenau, G.F.R.)	338	339	340	341	342	343	344	345	346	347	348	349	350	351	
C.4f	24-48 MHz - (AFCRL, Sagamore Hill)	338	339	340	341	342	343	344	345	346	347	348	349	350	351	
C.5b	Solar X-ray Radiation (Explorer 35)															
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F.1c	Cosmic Ray Neutron Counts (Dallas)	338	339	340	341	343	343	344	345	346	347	348	349	350		
F.1d	Cosmic Ray Neutron Counts (Churchill)	348	348	348	348	348										
F.1e	Cosmic Ray Neutron Counts (Alert)	350	350	350	350	350	346	346	346	347	348	349	349	350	351	
F.1f	Cosmic Ray Neutron Counts (Calgary)	338	339	340	341	342	343	344	345	346	347	348	349	350	351	
F.1g	Cosmic Ray Neutron Counts (Sulphur Mountain)	338	339	340	341	342	343	344	345	346	347	348	349	350	351	
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For explanations of the data contained herein see "Descriptive Text" published as supplement to February 1973 "Solar-Geophysical Data" (Number 342).

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Confirmed

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS. COND.	OBS. TYPE	MEASUREMENTS					REMARKS
	DATE MAY	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	HGMATH PLAGE REGION	CMP DAY	MIN.				TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	
GRP48395	01	0051	0122	0103	S14	E87	.998	12336	7.6	31	-N				1.24				2 2 1 6
PALE	01	0051	0114	0102	S14	E89	.999	12336	7.7	23	-N	3	C						F
MANI	01	0053E	0130D	0104	S14	E84	.993	12336	7.3	37D	1N	2		0104	1.24	3.46			F
GRP48396	01	0141	0203	0149	S18	E45	.721	12332	4.4	22	-N				1.28				3 3 3 3
MANI	01	0140	0209	0149	S17	E45	.718	12332	4.4	29	1N	2		0149	2.06	3.04			F
PALE	01	0141	0203	0148	S18	E45	.721	12332	4.4	22	-N	3	C		1.08				OE
CRON	01	0146E	0156		S18	E46	.732	12332	4.5	10D	-N		V		.70				
397 TEHR	01	0243	0251D	0249	N12	W90	1.000	12322	24.4	8D	-B	1	C		.33				F 4
GRP48400	01	0424	0701	0626	S13	E78	.976	12336	7.0	157	1N				.50				2 1 1 5
KODA	01	0424E	0701D	0626	S13	E78	.976	12336	7.0	157D	1N		C	0424			2.04		I
CRON	01	0426E	0430	0426E	S16	E78	.976	12336	7.0	4D	-N		V	0426	.50				
7 STATIONS REPORTING GROUP 48401. 3 STATIONS OBSERVING AND NOT REPORTING.																			
GRP48401	01	0924	0958	0935	S15	E77	.972	12336	7.2	34	-N				.52				5 5 5 10
CRON	01	0914E	0938D		S16	E75	.963	12336	7.0	24D	-N		V		.40				
CATA	01	0925	0955	0935	S16	E77	.972	12336	7.2	30	-N		C	0935	.29			(174)	
ARCE	01	0925E	0950D	0930	S16	E77	.972	12336	7.2	25D	-N		C	0930	.38	1.10			
CAPS	01	0931	0950		S13	E77	.972	12336	7.2	19	-N	3	V	0934	.50				
UPIC	01	0934E	1016	0939	S16	E77	.972	12336	7.2	42D	1N		P	0939	1.05				
48401	01	0911	0936	0915	S15	E79	.979	12336	7.3	25	*-N				.60				3 3 3 9
ARCE	01	0910E	0915D		S17	E78	.976	12336	7.2	5D	-N		C	0915	.44	1.40			
TEHR	01	0911	0952	0915	S16	E79	.979	12336	7.3	41	-N	2	C		.55				OE
CANR	01	0913	0920	0914	S13	E79	.979	12336	7.3	7	-N		V	0915	.80	1.60			
GRP48406	01	1417	1455	1422	S13	E75	.963	12336	7.2	38	-N				1.08				6 6 6 8
UPIC	01	1351	1544		S14	E75	.963	12336	7.2	113	1N		P	1433	1.47				KF
RAMY	01	1407E	1441	1418U	S13	E72	.949	12336	7.0	34D	-N	2	C		.84				DE
RAMY	01	1407E	1441	1410U	S13	E72	.949	12336	7.0	34D	-F	2	C		.74				OE
CAPS	01	1418	1540		S10	E72	.949	12336	7.0	82	1N	3	S	1427	2.23			(175)	
ZURI	01	1419	1437	1422	S14	E76	.968	12336	7.3	18	-N		C	1422	.62	2.40			
CANR	01	1419	1510	1423	S12	E76	.968	12336	7.3	51	-B		V		.60	1.80			
TEHR	01	1420	1455D	1424	S13	E78	.976	12336	7.4	35D	-B	2	C		.73				F Z
407 RAMY	01	1650	1702D	1654	S13	E69	.931	12336	6.9	12D	-N	2	C		.56				DE 1
408 HUAN	01	1736	1739		S14	E74	.959	12336	7.3	3	--F	1	C	1737					3
409 HUAN	01	1825	1853		S14	E74	.959	12336	7.3	28	--F	1	C	1834					D 3
410 HUAN	01	1915	1919	1915	S11	E75	.964	12336	7.4	4	--F	1	C	1915	.26				D 2
GRP48411	01	2031	2104	2041	S15	E73	.954	12336	7.3	33	-N				.67				2 2 2 2
HUAN	01	2031	2101D	2039U	S13	E73	.954	12336	7.3	30D	-N	1	C	2039	.52				E
PALE	01	2031	2104	2043	S16	E72	.949	12336	7.3	33	-N	2	C		.81				F
	01	2200	2205	NO FLARE PATROL															
412 MANI	02	0032	0047	0034	S12	E70	.937	12336	7.3	15	--N	2		0034	.41	.88			2
GRP48414	02	0356	0431	0358	S16	E61	.875	12336	6.7	35	-F				.81				3 2 1 5
PALE	02	0356	0431	0358	S16	E54	.812	12336	6.2	35	-N	3	C		.81				F
CRON	02	0402E	0411		S15	E67	.919	12336	7.2	9D	-F		V			.50			
MANI	02	0422	0444	0425	S13	E66	.911	12336	7.1	22	-N	2		0425	.83	1.66			F
GRP48415	02	0512	0524	0516	S10	W48	.743	12323	28.6	12	--F				.51				2 2 2 5
MANI	02	0512	0522	0514	S10	W47	.731	12323	28.7	10	-N	2		0514	.52	.76			F
ATHN	02	0517E	0526	0517U	S10	W48	.743	12323	28.6	9D	-F	1	C		.50				OE
GRP48416	02	0731	0758	0733	S14	E65	.905	12336	7.2	27	-N				.47				6 6 6 9
ATHN	02	0730	0757	0732	S14	E66	.912	12336	7.3	27	-N	2	C		.50				DE
BUCA	02	0730	0755		S13	E65	.904	12336	7.2	25	-F		C	0737	.43	1.80			
CANR	02	0730	0755	0732	S13	E66	.911	12336	7.3	25	-N		V		.40				
MANI	02	0731E	0759	0733	S14	E65	.905	12336	7.2	28D	-N	2		0733	.83	1.62			
TEHR	02	0732	0806	0736	S13	E66	.911	12336	7.3	34	-N	3	C		.23				DE
UPIC	02	0736E	0740D		S14	E63	.890	12336	7.0	2D	-F		P	0740	.42				

Note: Catania and Capri-S express Maximum Intensities in percent of the local undisturbed chromosphere instead of percent of the local continuum. Parentheses are used to indicate this difference.

SOLAR FLARES
Confirmed

MAY 1973

OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS					REMARKS
	DATE 1973 MAY	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	
GRP48418	02	0927	0957	0938	S13	E69	.931	12336	7.6	30	-N				.92				9 8 7 11
KHAR	02	0915E	0952D		S15	E67	.919	12336	7.4	37D	2F		P	0930	2.58	6.50	2.10		
ARCE	02	0925E	0955D		S13	E70	.937	12336	7.6	30D	-N		C	0943	.41	1.00			
ISTA	02	0925	0955		S13	E70	.937	12336	7.6	30	-N								E
CANR	02	0927	0952	0930	S12	E67	.918	12336	7.4	25	-N		V	0930	.80	1.70			
TEHR	02	0928	1006	0936	S13	E71	.943	12336	7.7	38	-N	2	C		.55				F
MONT	02	0929	0951	0940	S13	E69	.931	12336	7.6	22	-N		C	0940	.72				E
CATA	02	0930	1000D	0935	S14	E67	.919	12336	7.4	30D	-B		P	0935	.58			(2140)	
ATHN	02	0937E	1007	0937U	S14	E68	.925	12336	7.5	30D	-N	2	C		.83				DE
HERS	02	0947E	1004	0949U	S13	E67	.918	12336	7.4	17D	1N		P	0949	.89	2.40			D
GRP48420	02	1148	1202	1151	S13	E62	.881	12336	7.1	14	-B				.56				8 8 8 8
CATA	02	1135	1215	1150	S13	E62	.881	12336	7.1	40	-B		C	1150	.69	1.47		(347)	Z
CANR	02	1140	1145D	1145	S10	E61	.873	12336	7.1	5D	-N		V	1145	.40	.80			
MONT	02	1148	1159	1150	S12	E61	.873	12336	7.1	11	-N		C	1150	.72				D
UPIC	02	1149	1204	1151	S14	E63	.890	12336	7.2	15	-B		P	1151	.85				
ATHN	02	1149E	1158	1150	S13	E61	.873	12336	7.1	9D	-B	3	V		.50				DE
RAMY	02	1149	1200	1152U	S12	E62	.881	12336	7.1	11	-B	3	C		.37				DE
CAPS	02	1151	1159		S14	E60	.865	12336	7.0	8	-B	2	V	1153	.50	1.00		(308)	C
HUAN	02	1152E	1202		S13	E63	.889	12336	7.2	10D	-N	2	P	1152	.41	.87			
GRP48421	02	1329	1345	1332	S15	E67	.919	12336	7.6	16	--N				.62				5 5 5 7
HUAN	02	1328	1334D	1330	S15	E67	.919	12336	7.6	6D	-N	1	P	1330	.41				E
CAPS	02	1328	1348		S15	E67	.919	12336	7.6	20	-N	3	V	1330	.30				C
RAMY	02	1329	1341	1331	S14	E65	.905	12336	7.4	12	-F	2	C		.37				DE
ATHN	02	1330E	1342	1331	S15	E68	.925	12336	7.7	12D	-N	3	V		.33				DE
UPIC	02	1330	1350	1335	S15	E69	.932	12336	7.7	20	1N		P	1335	1.68				
GRP48422	02	1509	1536	1516	S11	W53	.798	12323	28.7	27	--F				.85				6 6 5 6
RAMY	02	1508	1527	1515U	S12	W52	.788	12323	28.7	19	-F	4	V		.28				DE
CAPS	02	1508	1535		S10	W52	.787	12323	28.7	27	-N	2	V	1517	.60	1.00		(196)	
HUAN	02	1508	1528	1513	S11	W51	.777	12323	28.8	20	-F	1	C	1513					
CATA	02	1510	1600	1520	S09	W53	.797	12323	28.7	50	1N		C	1520	2.02	3.35		(200)	
ATHN	02	1514E	1528	1515	S11	W56	.828	12323	28.4	14D	-F	3	V		.33				DE
CANR	02	1514E	1540		S13	W55	.819	12323	28.5	26D	-F		V		1.00				
GRP48423	02	1525	1539	1530	S14	E67	.919	12336	7.7	14	--F				.27				4 4 4 6
CAPS	02	1519	1543		S15	E70	.938	12336	7.9	24	-B	2	V	1530	.25				C
RAMY	02	1526	1538	1529	S12	E61	.873	12336	7.2	12	-F	3	C		.28				DE
HUAN	02	1527	1534	1530U	S14	E67	.919	12336	7.7	7	-F	1	C	1530	.21	.47			D
ATHN	02	1528	1539	1530	S15	E68	.925	12336	7.7	11	-F	2	V		.33				DE
GRP48424	02	1616	1629	1618	S14	E66	.912	12336	7.6	13	--F				.41				3 3 3 4
RAMY	02	1615E	1632	1616U	S12	E62	.881	12336	7.3	17D	-N	2	V		.52				DE
HUAN	02	1616	1622	1618	S14	E67	.919	12336	7.7	6	-F	1	C	1618	.21	.47			D
ATHN	02	1620E	1632	1620U	S15	E68	.925	12336	7.8	12D	-F	1	V		.50				DE
GRP48425	02	1754	1804	1756	S14	E63	.890	12336	7.5	10	--N				.39				4 4 4 5
RAMY	02	1753E	1806	1755U	S12	E61	.873	12336	7.3	13D	-N	3	V		.52				DE
PALE	02	1754	1758D	1756	S15	E62	.882	12336	7.4	4D	-N	2	C		.36				
HUAN	02	1754	1802	1756	S15	E64	.898	12336	7.5	8	-F	1	C	1756	.26	.57			D
MCMA	02	1755E	1801D		S14	E65	.905	12336	7.6	6D	-N		P	1757	.41	1.00			E
GRP48427	02	1859	1906	1859	S13	E61	.873	12336	7.4	7	-N				.55				3 3 2 4
RAMY	02	1840E	1912	1856U	S12	E60	.864	12336	7.3	32D	-N	3	V		.88				DE
RAMY	02	1840E	1912	1842U	S12	E60	.864	12336	7.3	32D	-F	3	V		.88				DE
BOUL	02	1859	1904	1901	S13	E60	.865	12336	7.3	5	-B		V	1901		1.26			
HUAN	02	1859	1902	1900	S15	E62	.882	12336	7.4	3	-F	1	C	1900	.21	.44			D
428 HUAN	02	2021	2029	2022	S13	E59	.856	12336	7.3	8	--F	1	C	2022	.15	.30			D 3
GRP48429	02	2039	2134	2045	S14	E59	.857	12336	7.3	55	-B				.79				4 4 3 5
BOUL	02	2037	2043D	2043	S13	E58	.847	12336	7.2	6D	1B		V	2043		3.10			
HUAN	02	2039	2129		S14	E59	.857	12336	7.3	50	-B	1	C	2051	.83	1.57			E
MCMA	02	2039E	2113D		S15	E57	.840	12336	7.1	34D	-B		C	2048	.52	1.00			E
PALE	02	2039	2140	2046	S14	E61	.874	12336	7.4	61	-B	3	V		1.03				DE
PALE	02	2039	2120D	2042	S15	E59	.857	12336	7.3	41D	-B	3	C		.99				DE
GRP48430	02	2148	2159	2153	S12	E58	.847	12336	7.3	11	-N				.60				3 3 3 3
RAMY	02	2148	2157D	2152	S11	E58	.846	12336	7.3	9D	-N	3	V		.41				DE
PALE	02	2152E	2158	2152U	S14	E56	.830	12336	7.1	6D	-B	3	C		.55				
MANI	02	2155E	2200D	2155U	S12	E59	.856	12336	7.3	5D	-N	1		2155	.83	1.48			
GRP48433	02	2313	0011	2321	S13	E59	.856	12336	7.4	58	-N				.41				2 2 1 3
BOUL	02	2313	0003	2321	S13	E58	.847	12336	7.3	50	1N		V	2321		3.10			
MANI	02	2313	2338	2320	S15	E58	.849	12336	7.3	25	-N	2		2320	.41	.74			F
MANI	02	2320	0030	2333	S13	E61	.873	12336	7.5	70	-N	2		2333	.21	.38			
MANI	02	2345	0018	2348	S12	E59	.856	12336	7.4	33	-N	2		2348	.31	.56			

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	DATE 1973 MAY	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	NOAA PLAGE REGION	CMP DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	
GRP48435	03	0022	0035	0026	S12	E56	.828	12336	7.2	13	-N				.62				3 3 2 4
MANI	03	0017	0039	0026	S13	E56	.829	12336	7.2	22	-N	2		0026	.52	.88			
PALE	03	0024E	0033D	0026	S14	E58	.848	12336	7.4	90	-N	3	C		.72				F
BOUL	03	0025	0032	0027	S10	E54	.808	12336	7.1	7	-B		V	0025		1.50			
GRP48436	03	0050	0120	0050	S11	E55	.818	12336	7.2	30	--N				.52				2 1 1 4
MANI	03	0050E	0120D	0050U	S11	E55	.818	12336	7.2	300	-N	1		0050	.52	.86			
BOUL	03	0112	0115D	0115	S13	E54	.810	12336	7.1	3D	-N		V	0115		1.00			
GRP48437	03	0056	0113	0057	S10	W58	.846	12323	28.7	17	--F				.39				2 2 2 3
MANI	03	0055	0120D	0056	S10	W56	.828	12323	28.8	250	-F	1		0056	.41	.70			
PALE	03	0056	0106	0057	S09	W59	.855	12323	28.6	10	-N	3	C		.36				
GRP48439	03	0145	0239	0154	S15	E53	.802	12336	7.0	54	-N				.94				4 3 3 4
PALE	03	0143	0236	0154	S15	E53	.802	12336	7.0	53	-F	3	C		1.08				DE
MANI	03	0145E	02440	0155	S15	E53	.802	12336	7.0	590	-B	2		0155	1.24	1.99			F
CRON	03	0147	0210	0152	S14	E55	.820	12336	7.2	23	-B		V	0152	.50				
KODA	03	0211E	03110	0303	S13	E55	.819	12336	7.2	600	1B		P	0211	3.37	3.40	1.52		E
CRON	03	0228	0237D		S15	E54	.811	12336	7.2	3D	-N		V		.45				
440 PALE	03	0200	0209	0205	S09	W59	.855	12323	28.7	9	--F	3	C		.19				2
GRP48443	03	0357	0433	0400	S15	E55	.821	12336	7.3	36	-B				1.53				5 4 4 5
CRON	03	0337E	0432	0358	S16	E55	.822	12336	7.3	550	-B		V	0358	1.10				
MANI	03	0354E	0432	0355U	S16	E54	.813	12336	7.2	38D	-N	2		0355	.83	1.35			
PALE	03	0356	0431	0358	S16	E54	.813	12336	7.2	35	-N	3	C		.81				F
KODA	03	0402	0437	0407	S13	E55	.819	12336	7.3	35	1B		P	0407	3.37	3.40	2.16		E
ATHN	03	0414E	0436	0414U	S13	E52	.789	12336	7.1	22D	-N	1	C		.66				DE
GRP48444	03	0537	0547	0539	S13	E53	.800	12336	7.2	10	--F				.48				3 3 3 4
ATHN	03	0537	0547	0539	S13	E52	.789	12336	7.1	10	-F	3	C		.33				DE
ABST	03	0539E	0553	0539	S14	E54	.810	12336	7.3	140	-F		P	0539	.81	1.40			OJ
CRON	03	0539E	0542		S13	E52	.789	12336	7.1	3D	-N		V		.30				
GRP48445	03	0603	0614	0606	S15	E50	.771	12336	7.0	11	-N				.61				3 3 3 6
ATHN	03	0603	0608D	0606	S14	E50	.769	12336	7.0	50	-F	1	C		.50				DE
MANI	03	0603	0615	0606	S15	E49	.760	12336	6.9	12	-N	2		0606	1.03	1.59			
CAPS	03	0604	0613		S15	E50	.771	12336	7.0	9	-N	2	S	0604	.30	.60			
GRP48449	03	0831	0917	0837	S14	E51	.780	12336	7.2	46	2B				7.01				8 8 7 10
CANR	03	0830	0900	0833	S12	E52	.788	12336	7.3	30	2B		V	0833	4.20	7.80			
MANI	03	0830	08590	0836	S16	E50	.772	12336	7.1	290	2B	2		0836	5.67	8.74			ZH
CATA	03	0830	0940	0840	S16	E49	.761	12336	7.0	70	3B		C	0840	11.10	16.99		(457)	
ISTA	03	0831	0915		S16	E50	.772	12336	7.1	44	3B								V
CRON	03	0832E	0906	0834	S14	E53	.800	12336	7.3	340	2B		V	0834	3.00				
CAPS	03	0832	0907	0840	S14	E53	.800	12336	7.3	35	2B	2	P	0841	7.00	10.50		(800)	CH
ARGE	03	0835E	0855D		S15	E50	.771	12336	7.1	200	3N		C	0837	8.61	13.70			
TEHR	03	0840E	0931	0840U	S12	E49	.756	12336	7.0	510	2B	3	C		9.48				S 9
GRP48453	03	1616	1631	1623	S13	E51	.779	12336	7.5	15	--F				.55				3 3 2 5
ZURI	03	1613	16250	1625	S12	E50	.767	12336	7.4	12D	-N		P	1625	.85	1.30			
HUAN	03	1617	1631	1623	S14	E51	.780	12336	7.5	14	-F	1	C	1623					
BOUL	03	1618	1631	1620	S14	E52	.790	12336	7.6	13	-F		V	1620	.25	.40			
GRP48455	03	1731	1756	1735	S15	E45	.715	12336	7.1	25	--N				.31				3 3 3 4
BOUL	03	1725	1800	1730	S15	E44	.703	12336	7.0	35	-F		V	1730	.20	.30			
PALE	03	1734	1757	1737	S15	E45	.715	12336	7.1	23	-N	3	C		.36				DE
RAMY	03	1734	1751	1739	S14	E45	.713	12336	7.1	17	-N	4	C		.37				DE
GRP48456	03	1911	1935	1916	S13	E46	.723	12336	7.2	24	--F				.51				3 3 2 3
RAMY	03	1911	1936	1916	S13	E44	.699	12336	7.1	25	-F	4	C		.46				DE
HUAN	03	1911	1937		S12	E47	.733	12336	7.3	26	-F	1	C	1917					E
PALE	03	1913E	1932		S13	E47	.735	12336	7.3	190	-N	3	C		.55				DE
GRP48457	03	1932	1956	1936	S13	E65	.905	12336	8.7	24	-N				.59				4 4 3 4
RAMY	03	1929	2003	1936	S12	E64	.897	12336	8.6	34	-N	4	C		.85				DE
PALE	03	1931	1958	1937	S14	E65	.905	12336	8.7	27	-N	3	C		.72				DE
HUAN	03	1933	1949	1933U	S12	E65	.904	12336	8.7	16	-F	1	C	1938	.21	.47			D
BOUL	03	1935	19540	1938	S12	E64	.897	12336	8.6	130	1N		V	1938		2.60			
458 PALE	03	1942	1958	1943	S15	E48	.749	12336	7.4	8	--N	3	C		.72				DE 3
GRP48459	03	2100	2131	2109	S15	E43	.691	12336	7.1	31	--F				.31				3 3 2 5
RAMY	03	2059	2131	2108	S13	E43	.687	12336	7.1	32	-N	4	C		.46				DE
HUAN	03	2100	21050		S15	E43	.691	12336	7.1	50	-F	1	P	2105	.15	.21			D
BOUL	03	2105E	2127D	2110	S16	E44	.705	12336	7.2	220	-F		V	2110		.55			

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS. COND.	OBS. TYPE	MEASUREMENTS					REMARKS
	DATE 1973 MAY	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY	MIN.				TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	
GRP48469	03	2201	2217	2206	S13	E47	.735	12336	7.4	16	-B				.89				2 2 2 3
RAMY	03	2200	2223D	2206U	S13	E47	.735	12336	7.4	23D	-N	3	C		.93				DE
VORO	03	2202	2211	2205	S13	E46	.723	12336	7.4	9	-B		C	2205	.84	1.18		72	EH
GRP48464	04	0236	0257	0249	S14	E40	.652	12336	7.1	21	--N				.75				3 3 3 3
PALE	04	0236	0257	0248	S13	E41	.663	12336	7.2	21	-N	2	C		.72				DE H
PALE	04	0236	0257	0238	S13	E41	.663	12336	7.2	21	-F	2	C		.45				DE H
CRON	04	0248E	0258		S15	E39	.642	12336	7.0	10D	-F		V		.80				
MANI	04	0249E	0257D	0250	S15	E39	.642	12336	7.0	8D	-N	2		0250	.72	.94			F
GRP48465	04	0355	0414	0359	S12	E43	.686	12336	7.4	19	--F				.56				2 2 2 3
CRON	04	0355E	0403	0355	S12	E45	.710	12336	7.5	8D	-F		V	0355	.70				
MANI	04	0356E	0425D	0402U	S12	E41	.661	12336	7.2	29D	-N	2		0402	.41	.56			F
467 MANI	04	0440E	0458D	0440U	S14	E42	.677	12336	7.3	18D	-N	2		0440	1.24	1.67			F 2
GRP48468	04	0608	0644	0618	S14	E38	.627	12336	7.1	36	--N				.57				8 7 7 9
CATA	04	0605E	0700	0615	S15	E38	.630	12336	7.1	55D	-B		P	0615	.58	.74		(240)	
MANI	04	0608E	0644D	0612U	S16	E39	.645	12336	7.2	36D	-N	2		0612	.62	.81			
ABST	04	0608	0630	0611	S15	E39	.642	12336	7.2	22	-F		C	0611	.81	1.10			DJ
CRON	04	0609E	0630	0609E	S13	E39	.637	12336	7.2	21D	-N		V	0609	.60				
BUCA	04	0610	0700		S14	E38	.627	12336	7.1	50	-N		C	0613	.55	.70			
TEHR	04	0618E	0644	0618U	S13	E35	.584	12336	6.9	26D	-N	2	C		.31				F Z
ATHN	04	0623E	0641	0623U	S15	E40	.655	12336	7.3	18D	-N	2	C		.50				DE
ZURI	04	0633E	0643D	0636	S14	E38	.627	12336	7.1	10D	-N		P	0636	.63	.80			
GRP48469	04	0936	0942	0936	S14	E38	.627	12336	7.3	6	--F				.86				2 2 2 8
CATA	04	0935	0945	0935	S15	E40	.655	12336	7.4	10	-N		C	0935	.87	1.15		(155)	
ZURI	04	0936	0939	0936	S12	E36	.595	12336	7.1	3	-F		C	0936	.85	1.00			
GRP48473	04	1236	1252	1239	S13	E39	.637	12336	7.5	16	--N				.16				3 3 3 8
CATA	04	1235	1255	1235	S14	E44	.701	12336	7.8	20	-N		C	1235	.17	.24		(186)	
TEHR	04	1236	1250	1239	S13	E39	.637	12336	7.5	14	-N	3	C		.09				DE
RAMY	04	1237	1343	1330	S13	E35	.584	12336	7.2	66	-F	4	C		.21				DE
RAMY	04	1239	1250	1243	S13	E41	.663	12336	7.6	11	-F	3	C		.21				DE
TEHR	04	1243	1247	1243	S13	E35	.584	12336	7.2	4	-N	3	C		.09				DE
RAMY	04	1327	1343	1330	S13	E35	.584	12336	7.2	16	-F	4	C		.21				DE
6 STATIONS REPORTING GROUP 48474. 0 STATIONS OBSERVING AND NOT REPORTING.																			
GRP48474	04	1420	1449	1438	S13	E38	.624	12336	7.4	29	-N				.90				5 5 5 6
CATA	04	1415	1455D	1440	S13	E38	.624	12336	7.4	40D	1N		P	1440	1.73	2.22		(200)	
MEUD	04	1415	1450	1435	S12	E37	.609	12336	7.4	35	-N		C	1435	.52	.60			
RAMY	04	1418	1626	1446	S12	E40	.648	12336	7.6	128	-F	4	C		.93				U F
CAPS	04	1423	1442		S14	E37	.614	12336	7.4	19	-B	3	S	1437	.80	1.00		(265)	
CANR	04	1428	1449	1432	S12	E36	.595	12336	7.3	21	-N		V	1432	.50	.70			
48474	04	1418	1448	1423	S12	E39	.635	12336	7.5	30	*-N				.51				4 4 4 6
TEHR	04	1412	1448	1420	S13	E37	.611	12336	7.4	36	-N	3	C		.45				F
MEUD	04	1415	1450	1420	S12	E37	.609	12336	7.4	35	-N		C	1435	.52	.60			E
RAMY	04	1418	1626	1423	S12	E40	.648	12336	7.6	128	-F	4	C		.46				U F
CANR	04	1427	1447	1429	S12	E40	.648	12336	7.6	20	-N		V	1429	.60	.80			
GRP48475	04	1454	1536	1507	S13	E37	.611	12336	7.4	42	1N				2.23				4 4 4 5
CANR	04	1454	1525	1505	S12	E38	.622	12336	7.5	31	1N		V	1505	2.20	2.70			
CANR	04	1454	1525	1457	S12	E38	.622	12336	7.5	31	-N		V	1457	1.00	1.20			
MEUD	04	1459E	1549D		S13	E37	.611	12336	7.4	50D	1N		C	1529	3.09	3.70			CFK
BOUL	04	1507E	1610	1507E	S14	E39	.640	12336	7.6	63D	1N		V	1507	2.20	2.50			
CATA	04	1510E	1515D	1510	S13	E37	.611	12336	7.4	5D	-B		P	1510	1.44	1.83		(229)	
BOUL	04	1512	1535	1517	S14	E33	.560	12336	7.1	23	-F		V	1517	.70	.80			
4 STATIONS REPORTING GROUP 48475. 2 STATIONS OBSERVING AND NOT REPORTING.																			
48475	04	1537	1600	(1545)	S14	E37	.614	12336	7.4	23	*-B				3.50				2 2 1 5
HUAN	04	1530E	1551D		S13	E37	.611	12336	7.4	21D	-N	1	P	1546					E
CAPS	04	1543	1600		S14	E37	.614	12336	7.4	17	1B	2	S	1544	3.50	4.50		(237)	
GRP48476	04	1842	1943	1846	S15	E32	.551	12336	7.2	61	--N				.44				4 3 2 4
RAMY	04	1839	1932	1852	S15	E32	.551	12336	7.2	53	-N	4	C		.52				DE
BOUL	04	1843	1950D	1843	S16	E32	.555	12336	7.2	67D	-N		V	1843		.40			
PALE	04	1843E	1925	1844	S16	E31	.541	12336	7.1	42D	-N	3	C		.36				DE
MCMA	04	1917E	1935		S16	E30	.528	12336	7.1	18D	-N		P	1917	.41	.50			E
PALE	04	1936	1946	1937	S13	E32	.543	12336	7.2	10	-N	3	C		.19				DE
GRP48477	04	2031	2057	2041	S13	E32	.543	12336	7.3	26	--N				.68				3 3 3 3
RAMY	04	2030	2054D	2040	S12	E32	.540	12336	7.3	24D	-N	4	C		.52				DE
MCMA	04	2032	2037	2033	S14	E31	.533	12336	7.2	5	-F		C	2033	.26	.30			E
PALE	04	2033E	2059	2041	S13	E33	.557	12336	7.3	26D	-N	3	C		.99				
PALE	04	2033E	2059	2035	S13	E33	.557	12336	7.3	26D	-F	3	C		.36				
MCMA	04	2039	2055	2041	S14	E33	.560	12336	7.3	16	-B		C	2041	.52	.60			E

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS. COND.	OBS. TYPE	MEASUREMENTS					REMARKS
	DATE 1973 MAY	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY	MIN.				TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	
478 PALE	04	2245E	22530	2245U	S14	E31	.533	12336	7.3	80	--N	3	C		.63				DE 2
479 PALE	04	2301E	23150	2301U	S15	E32	.551	12336	7.4	140	--F	2	C		.36				3
GRP48480	05	0009	0031	0014	S13	E29	.501	12336	7.2	22	--N				.73				3 3 3 4
MANI	05	0006	0028	0014	S13	E29	.501	12336	7.2	22	-N	2		0014	.72	.83			F
PALE	05	0011	0030	0014U	S13	E30	.516	12336	7.3	19	-N	3	C		.63				F
MITK	05	0011	0036	0015	S13	E29	.501	12336	7.2	25	-N		C	0015	.83	1.00			E
GRP48481	05	0159	0229	0204	S14	E30	.520	12336	7.3	30	-N				1.03				3 3 3 5
PALE	05	0159	02250	0205	S14	E30	.520	12336	7.3	260	-N	2	C		.72				F
MANI	05	0159	0226	0203	S14	E30	.520	12336	7.3	27	-N	2		0203	1.03	1.22			F
MITK	05	0159	0232	0203	S14	E31	.533	12336	7.4	33	-N		C	0203	1.34	1.60			E
GRP48482	05	0255	0315	0300	S08	W88	.999	12323	28.5	20	-N				.26				3 3 3 5
TEHR	05	0248	0316	0259	S09	W89	1.000	12323	28.4	28	-N	3	C		.19				DE
MANI	05	0258E	0314	0302	S08	W88	.999	12323	28.5	160	-N	2		0302	.31	.96			
PALE	05	0258	0316	0300	S07	W86	.997	12323	28.7	18	-F	2	C		.27				
GRP48483	05	0419	0433	0421	S12	E47	.734	12336	8.7	14	--F				.39				2 2 2 5
ATHN	05	0418	0436	0421	S12	E47	.734	12336	8.7	18	-N	2	C		.50				DE
TEHR	05	0419	0429	0421	S12	E46	.722	12336	8.6	10	-F	3	C		.28				F
GRP48484	05	0423	0440	0426	S13	E66	.912	12338	10.1	17	--N				.41				3 3 3 5
TEHR	05	0423	0437	0426	S13	E65	.905	12338	10.1	14	-B	3	C		.28				DE
MANI	05	0423	0441	0425	S13	E67	.919	12338	10.2	18	-N	2		0425	.62	1.26			F
ATHN	05	0423	0442	0426	S12	E67	.919	12338	10.2	19	-N	2	C		.33				DE
GRP48485	05	0425	0436	0429	S15	E21	.399	12336	6.8	11	--N				.59				2 2 2 5
MANI	05	0424	04310	0429	S16	E23	.434	12336	6.9	70	-N	2		0429	.72	.79			E
TEHR	05	0426	0436	0428	S14	E19	.364	12336	6.6	10	-N	3	C		.45				DE
GRP48486	05	0452	0507	0454	S15	E25	.455	12336	7.1	15	--N				.50				3 3 3 5
TEHR	05	0451	0507	0454	S15	E24	.441	12336	7.0	16	-N	3	C		.28				DE
MANI	05	0452	0506	0454	S15	E25	.455	12336	7.1	14	-N	2		0454	.72	.80			E
ATHN	05	0452	0507	0455	S15	E26	.469	12336	7.2	15	-N	2	C		.50				DE
ATHN	05	0452	0507	0458	S15	E26	.469	12336	7.2	15	-N	2	C		.33				DE
GRP48487	05	0522	0555	0531	S15	E24	.441	12336	7.0	33	-N				1.08				5 5 5 6
TEHR	05	0521	0600	0530	S14	E19	.364	12336	6.6	39	-N	3	C		.73				F
ATHN	05	0521	0549	0528	S15	E26	.469	12336	7.2	28	-N	2	C		1.32				DE
MANI	05	0522	0549D	0537U	S15	E25	.455	12336	7.1	270	-N	2		0537	1.03	1.14			FH
ABST	05	0525	0602	0531	S16	E25	.461	12336	7.1	37	-F		C	0531	.90	1.00			OJ
MITK	05	0529E	0557	0531	S16	E25	.461	12336	7.1	280	-N		C	0531	1.44	1.70			E
GRP48488	05	0634	0721	0659	S15	E24	.441	12336	7.1	47	-N				1.13				7 7 7 12
TEHR	05	0401E	0724	0703	S14	E19	.364	12336	6.6	2030	-N	3	V		.58				F
CAPS	05	0630	0747		S16	E23	.434	12336	7.0	77	-B	3	V	0657	1.20	1.30		(256)	
CATA	05	0630	07150	0700	S15	E23	.427	12336	7.0	450	-N		P	0700	1.16	1.28		(191)	
ATHN	05	0632	0643	0634	S15	E26	.469	12336	7.2	11	-F	2	C		.17				DE
MITK	05	0636	07010	0658	S16	E28	.502	12336	7.4	250	1F		C	0650	2.17	2.50			E
CATA	05	0640	07150	0700	S15	E39	.643	12336	8.2	350	-B		P	0700	.87	1.13		(219)	
ABST	05	0655	0722	0659	S16	E22	.420	12336	6.9	27	-F		C	0659	.81	.90			OJ
ATHN	05	0655	0708	0658	S15	E23	.427	12336	7.0	13	-F	2	C		.50				DE
TEHR	05	0701	0724	0703	S14	E19	.364	12336	6.7	23	-N	3	C		.36				F
MANI	05	0702E	07110	0702U	S15	E23	.427	12336	7.0	90	-N	2		0702	.62	.68			
GRP48490	05	0928	1011	0937	S15	E21	.399	12336	7.0	43	1N				2.25				7 7 7 7
CAPS	05	0922	1020		S15	E23	.427	12336	7.1	58	1B	2	V	0938	2.00	2.30		(335)	C
ATHN	05	0924	1001	0933	S15	E21	.399	12336	7.0	37	1B	3	C		2.15				U F
CATA	05	0925	10000	0935	S15	E21	.399	12336	7.0	350	1N		P	0935	2.68	2.84		(182)	
ARCE	05	0927E	10000	0929	S15	E21	.399	12336	7.0	330	1N		C	0929	3.19	3.50			
MANI	05	0936E	0945D	0936U	S14	E22	.407	12336	7.1	90	1N	1		0936	2.27	2.46			F
UPIC	05	0936	0943U	0941	S16	E20	.393	12336	6.9	70	-B		P	0941	1.68				
MONT	05	0945E	10000	0945	S15	E21	.399	12336	7.0	150	-N		C	0945	1.86				E
GRP48491	05	1108	1126	1115	S14	E21	.392	12336	7.0	18	-N				.88				6 5 5 9
ATHN	05	1052	1129	1110	S15	E21	.399	12336	7.0	37	-F	2	C		.99				DE
ATHN	05	1052	1129	1057	S15	E21	.399	12336	7.0	37	-F	2	C		.17				DE
RAMY	05	1105	11180	1109	S15	E21	.399	12336	7.0	130	-N	3	C		.46				DE
CAPS	05	1100	1115		S15	E23	.427	12336	7.2	7	-N	2	S	1113	.70	.80		(170)	
CATA	05	1110	11300	1120	S16	E20	.393	12336	7.0	200	-N		P	1120	1.44	1.57		(162)	
TEHR	05	1119E	1129	1119U	S12	E19	.351	12336	6.9	100	-F	3	C		.83				F
CATA	05	1120	11300	1120	S12	E22	.395	12336	7.1	100	-N		P	1120	.58	.63		(162)	
MCMA	05	1123E	1137		S16	E20	.393	12336	7.0	140	-F		C	1124	.83	1.00			E

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS					REMARKS
	DATE 1973 MAY	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	
GRP48492	05	1138	1152	1140	S12	E24	.425	12336	7.3	14	--N				.37				3 3 3 8
TEHR	05	1138	1151	1138	S12	E22	.395	12336	7.1	13	-N	3	C		.31				DE
MCMA	05	1138	1150	1140	S14	E25	.449	12336	7.4	12	-N		C	1140	.52	.60			E
RAMY	05	1140E	1155D	1142U	S11	E26	.450	12336	7.4	15D	-N	2	V		.28				DE
GRP48493	05	1159	1211	1202	S14	E22	.407	12336	7.1	12	--F				.36				4 4 4 9
TEHR	05	1158	1208	1202	S13	E22	.401	12336	7.1	10	-N	3	C		.28				DE
MCMA	05	1159	1210	1200	S16	E20	.393	12336	7.0	11	-N		C	1200	.36	.40			E
ATHN	05	1159	1213	1202	S15	E23	.427	12336	7.2	14	-F	2	C		.50				DE
RAMY	05	1200	1212	1205U	S13	E24	.430	12336	7.3	12	-F	2	V		.28				DE
ATHN	05	1204E	1217D	1206	S15	E22	.413	12336	7.2	13D	-F	3	V		.33				DE
GRP48494	05	1625	1635	1628	S14	E21	.392	12336	7.3	10	--N				.48				5 5 4 6
RAMY	05	1623	1635	1628	S13	E22	.401	12336	7.3	12	-F	4	C		.46				DE
MCMA	05	1625	1631	1627	S15	E22	.413	12336	7.3	6	-N		C	1627	.36	.40			E
ATHN	05	1625	1635	1628	S14	E22	.407	12336	7.3	10	-N	1	C		.50				DE
CATA	05	1625	1630D	1630	S14	E21	.392	12336	7.3	5D	-B		P	1630	.58	.63		(229)	
BOUL	05	1625	1640	1628	S14	E19	.364	12336	7.1	15	-F		V						
GRP48495	05	1655	1719	1659	S16	E18	.367	12336	7.1	24	--F				.44				2 2 2 5
RAMY	05	1654	1735D	1700	S15	E20	.385	12336	7.2	41D	-F	4	C		.46				Z F
MCMA	05	1655	1702	1658	S16	E16	.341	12336	6.9	7	-F		C	1658	.41	.40			E
GRP48496	05	1702	1833	1722	S15	E19	.372	12336	7.1	91	1B				4.34				6 5 4 6
RAMY	05	1654	1735D	1710	S15	E20	.385	12336	7.2	41D	-N	4	C		1.70				Z F
BOUL	05	1658	1844	1722	S14	E19	.364	12336	7.1	106	2B		V	1722		11.90			
MCMA	05	1703	2030	1719	S16	E18	.367	12336	7.1	207	2B		C	1719	6.19	6.60			FILMXV
HUAN	05	1705	1728D		S15	E20	.385	12336	7.2	23D	1B	1	P	1723	3.45	3.76			E
CANR	05	1712	1800	1718	S14	E20	.378	12336	7.2	48	1B		V	1718	2.40	2.60			
CANR	05	1715	1800	1720	S15	E21	.399	12336	7.3	45	2N		V	1720	6.00	6.60			
PALE	05	1731E	1822D	1741U	S16	E20	.393	12336	7.2	51D	2N	2	C		11.24				Z U
PALE	05	1731E	1822D	1731U	S16	E20	.393	12336	7.2	51D	2N	2	C		7.32				Z U
GRP48497	05	1923	2103	1932	S17	E16	.351	12336	7.0	100	-N				1.44				2 1 1 3
PALE	05	1923E	2103D	1932U	S17	E16	.351	12336	7.0	100D	-N	2	C		1.44				DE
BOUL	05	1932	2013	1948	S15	E11	.269	12336	6.6	41	-N		V	1948		1.60			
GRP48498	05	2120	2127	2121	S15	E26	.469	12336	7.8	7	--N				.22				3 3 2 3
PALE	05	2120E	2123D	2120U	S15	E26	.469	12336	7.8	3D	-N	3	C		.27				
BOUL	05	2120E	2128	2121	S15	E26	.469	12336	7.8	8D	-N		V	2121		.98			
HUAN	05	2120	2125	2121	S16	E26	.474	12336	7.8	5	-F	1	C	2121	.16	.18			D
499 HUAN	05	2207	2212	2208	S17	E11	.293	12336	6.7	5	--F	1	C	2208	.15	.16			D 2
GRP48500	05	2313	2321	2316	S16	E11	.281	12336	6.8	8	--N				.54				2 2 2 5
PALE	05	2312E	2321	2316	S17	E10	.283	12336	6.7	9D	-N	3	C		.45				
MANI	05	2314	2320	2315	S15	E12	.261	12336	6.9	6	-N	2		2315	.62	.64			
GRP48501	06	0035	0046	0037	S12	E22	.396	12336	7.7	11	-N				1.04				4 4 4 5
MITK	06	0033	0047	0037	S12	E22	.396	12336	7.7	14	-N		C	0037	1.03	1.10			E
VORO	06	0034	0046	0038	S10	E22	.386	12336	7.7	12	-N		C	0038	1.57	1.67		59	EH
MANI	06	0035	0045	0037	S12	E22	.396	12336	7.7	10	-N	2		0037	.83	.90			F
PALE	06	0036	0045	0037	S12	E21	.381	12336	7.6	9	-N	3	C		.72				F
GRP48502	06	0047	0106	0049	S14	E16	.323	12336	7.2	19	--F				.49				2 2 2 5
MANI	06	0045	0107	0047	S13	E15	.301	12336	7.2	22	-N	2		0047	.62	.65			F
PALE	06	0049E	0105	0050	S14	E17	.337	12336	7.3	16D	-F	2	C		.36				F
GRP48503	06	0219	0228	0220	S13	E12	.260	12336	7.0	9	--N				.46				2 2 2 5
PALE	06	0218	0228	0220	S13	E12	.260	12336	7.0	10	-N	3	C		.55				DE
TEHR	06	0220	0228	0220	S13	E11	.247	12336	6.9	8	-N	2	C		.36				DE
GRP48504	06	0318	0357	0324	S14	E11	.259	12336	7.0	39	--F				.38				2 2 2 5
TEHR	06	0317	0425	0327	S13	E10	.235	12336	6.9	68	-N	3	C		.45				DE
PALE	06	0319	0328	0321	S15	E11	.270	12336	7.0	9	-F	3	V		.31				F
GRP48505	06	0429	0500	0435	S12	E12	.250	12336	7.1	31	-N				1.01				4 4 4 5
TEHR	06	0425	0458	0436	S12	E09	.211	12336	6.9	33	-N	4	C		.45				DE
MITK	06	0431	0446D	0437	S13	E15	.301	12336	7.3	15D	-B		C	0437	1.55	1.60			E
MANI	06	0431	0445	0434	S13	E14	.287	12336	7.2	14	-N	2		0434	1.03	1.08			F
ATHN	06	0433E	0445	0433U	S13	E15	.301	12336	7.3	12D	-F	1	V		.99				DE
MANI	06	0445	0500	0447	S09	E07	.152	12336	6.7	15	-N	2		0447	.62	.62			
48505	06	0443	0458	0445	S13	E12	.260	12336	7.1	15	*-N				.67				2 2 2 5
ATHN	06	0442	0457	0444	S12	E12	.250	12336	7.1	15	-N	2	V		.50				DE
MANI	06	0443	0459	0446	S13	E12	.260	12336	7.1	16	-N	2		0446	.83	.86			F

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS					REMARKS
					APPROX.		CENTRAL	MCMATH	CMP										
	DATE 1973 MAY	START	END	MAX. PHASE	LAT.	MER. DIST.	DISTANCE	PLAGE REGION	DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	
GRP48506	05	0751	0806	0755	S12	E13	.264	12336	7.3	15	--F				.59				3 3 3 10
BUCA	05	0750	0805		S12	E14	.278	12336	7.4	15	-F		C	0753	1.10	1.10			E
MANI	05	0752	0804D	0754	S13	E14	.287	12336	7.4	12D	-F	2		0754	.41	.43			F
TEHR	05	0753E	0806	0755U	S12	E10	.224	12336	7.1	13D	-N	4	V		.25				DE
GRP48507	06	0305	0928	0912	S14	E10	.247	12336	7.1	23	-N				1.41				7 6 6 7
MANI	05	0904	0925D	0915	S13	E12	.260	12336	7.3	21D	-N	1		0915	1.65	1.71			F
MANI	06	0904	0925D	0908	S13	E12	.260	12336	7.3	21D	-N	1		0908	1.13	1.18			F
CATA	06	0905	0935	0915	S14	E10	.247	12336	7.1	30	1B		C	0915	2.02	2.09		(229)	
CAPS	06	0905	0925		S17	E10	.285	12336	7.1	20	-B	3	V	0907	1.90	2.00		(225)	
CANR	06	0905E	0925		S13	E09	.223	12336	7.1	20D	-N		V		.90	.90			
ATHN	05	0907E	0929	0907U	S15	E08	.239	12336	7.0	22D	-N	3	V		1.32				F
TEHR	05	0908E	0928	0910	S12	E10	.224	12336	7.1	20D	-N	4	V		.66				F
KHAR	05	0920E	0929D		S14	E20	.379	12336	7.9	9D	1F		P	0923	4.54	4.70			E
GRP48509	06	1022	1034	1024	S13	E09	.223	12336	7.1	12	--N				.49				5 5 5 6
ATHN	05	1019E	1037	1019U	S13	E08	.212	12336	7.0	18D	-F	3	V		.50				DE
CATA	06	1020	1035	1020	S13	E07	.201	12336	7.0	15	-B		C	1020	.87	.88		(204)	
TEHR	06	1023E	1031	1023U	S11	E08	.187	12336	7.0	8D	-N	3	V		.17				DE
CANR	05	1023	1030	1024	S13	E09	.223	12336	7.1	7	-N		V	1023	.60	.60			
CAPS	06	1025	1037		S15	E15	.319	12336	7.6	12	-N	2	S	1026	.30	.30		(170)	
GRP48510	05	1036	1055	1039	S15	E17	.346	12336	7.7	19	--N				.19				2 2 2 6
CATA	05	1035	1105	1040	S15	E17	.346	12336	7.7	30	-N		C	1040	.29	.30		(158)	
TEHR	06	1036	1045	1038	S14	E17	.337	12336	7.7	9	-N	3	V		.09				DE
GRP48512	05	1153	1206	1156	S14	E07	.215	12336	7.0	13	--N				.42				2 2 2 5
ATHN	05	1153E	1206	1157	S15	E07	.229	12336	7.0	13D	-N	3	V		.50				DE
TEHR	06	1154E	1205	1154U	S13	E07	.201	12336	7.0	11D	-N	3	V		.33				DE
GRP48513	06	1212	1238	1216	S13	E10	.235	12336	7.3	26	-B				1.91				5 4 4 7
CATA	05	1210	1245	1215	S13	E10	.235	12336	7.3	35	-B		C	1215	1.73	1.78		(302)	
TEHR	06	1211E	1237	1212	S12	E10	.224	12336	7.3	26D	-B	3	V		.99				F
ATHN	05	1213E	1240	1217	S13	E09	.223	12336	7.2	27D	-B	3	V		1.32				F
KIEV	05	1214	1231	1218	S13	E11	.247	12336	7.3	17	1N		P	1218	3.61	3.70		60	EI
RAMY	06	1231E	1235D	1232U	S13	E10	.235	12336	7.3	4D	-N	2	V		.65				DE
GRP48514	05	1457	1505	1458	S15	E13	.294	12336	7.6	8	--N				.34				4 4 4 7
RAMY	06	1457E	1505D	1457U	S15	E07	.229	12336	7.1	8D	-B	2	V		.28				DE
TEHR	06	1457	1500D	1458	S15	E15	.319	12336	7.7	3D	-N	2	V		.33				DE
HUAN	06	1458	1503	1458	S16	E16	.342	12336	7.8	5	-F	1	C	1458	.41	.44			E
ATHN	06	1459E	1506	1459U	S15	E15	.319	12336	7.7	7D	-N	2	V		.33				DE
GRP48515	05	1643	1647	1644	S16	E15	.329	12336	7.8	4	--F				.28				2 2 1 2
RAMY	06	1643E	1648	1643U	S15	E15	.319	12336	7.8	5D	-F	2	V		.28				DE
HUAN	05	1643	1646	1644	S16	E15	.329	12336	7.8	3	-F	1	C	1644					
GRP48516	06	1736	1745	1740	S15	E04	.208	12336	7.0	9	--F				.72				4 4 4 5
HCMA	06	1736	1744D		S16	E04	.224	12336	7.0	8D	-F		P	1738	.52	.58			E
HUAN	06	1736	1746	1738	S15	E04	.208	12336	7.0	10	-F	1	C	1738	.46	.48			E
PALE	05	1737E	1743	1739U	S16	E02	.216	12336	6.9	6D	-F	3	V		.46				F
PALE	06	1737E	1743	1739U	S15	E08	.239	12336	7.3	6D	-F	3	V		.46				F
RAMY	05	1740E	1746	1743U	S15	E04	.208	12336	7.0	6D	-F	2	V		.99				DE
518 RAMY	06	1821E	1829	1822	S15	E04	.208	12336	7.1	8D	--F	3	V		.46				DE 2
	06	1903	1927	NO FLARE PATROL															
	06	1928	2018	NO FLARE PATROL															
GRP48519	05	1952	2018	1956	S15	E04	.208	12336	7.1	18	--N				.83				2 1 1 2
RAMY	06	1952	2018D	1956	S15	E04	.208	12336	7.1	18D	-N	2	V		.83				DE
HUAN	06	2018E	2019D		S16	E03	.219	12336	7.1	9D	-F	1	P	2013	.52	.53			E
	06	2019	2048	NO FLARE PATROL															
GRP48520	06	2104	2113	2108	S17	W03	.236	12336	6.7	9	--F				.31				2 2 1 2
HUAN	06	2104	2113	2107	S17	W03	.236	12336	6.7	9	-F	1	C	2107					E
PALE	05	2106E	2110	2108U	S17	W03	.236	12336	6.7	4D	-F	3	V		.31				F H
PALE	06	2108E	2112	2108U	S18	W04	.256	12336	6.6	4D	-F	2	C		.27				F H
	06	2122	2134	NO FLARE PATROL															
521 PALE	07	0016E	0025D	0022U	S16	W01	.216	12336	6.9	9D	--N	2	C		.55				F 4
GRP48523	07	0103	0120	0109	S16	W06	.238	12336	6.6	17	--N				.64				3 3 3 4
MANI	07	0055E	0119D	0108U	S16	W06	.238	12336	6.6	24D	-N	2		0108	.83	.84			F
HITK	07	0105	0121	0106	S17	W06	.253	12336	6.6	16	-N		C	0106	.83	.90			E
PALE	07	0110	0119	0112	S16	W07	.245	12336	6.5	9	-N	2	V		.26				

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OBSERV-ATORY	OBSERVED UT				LOCATION						DURA-TION	IM-POR-TANCE	OBS.		MEASUREMENTS					REMARKS
	DATE MAY	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY		MIN.		COND.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hg	MAX. INT. %	
GRP48525	07	0231	0306	0233	S16	W03	.221	12336	6.9		35	--F				1.24				2 1 1 5
MITK	07	0231	0306	0233	S16	W03	.221	12336	6.9		35	-F		C	0233	1.24	1.30			
PALE	07	0252E	0308	0252U	S17	W04	.242	12336	6.8		16D	-F	2	C		.36				F
GRP48527	07	0404	0419	0408	S14	W08	.226	12336	6.6		15	--N				.71				4 4 4 6
MITK	07	0403	0416D	0409	S17	W08	.268	12336	6.6		13D	-N		C	0409	.93	1.00			E
MANI	07	0403E	0420	0410	S16	W09	.263	12336	6.5		17D	-N	2		0410	.83	.86			F
TEHR	07	0405	0417	0407	S08	W05	.116	12336	6.6		12	-F	3	C		.45				
PALE	07	0406E	0411D	0407U	S16	W08	.254	12336	6.6		5D	-N	1	C		.63				DE
GRP48528	07	0442	0521	0503	S16	W03	.221	12336	7.0		39	-N				1.11				4 4 4 5
TEHR	07	0437	0532	0504	S13	W04	.178	12336	6.9		55	-N	3	C		1.27				F
MANI	07	0446	0456	0447	S15	E07	.231	12336	7.7		10	-N	2		0447	.62	.64			F
MANI	07	0501	0532D	0504	S15	W03	.205	12336	7.0		31D	-N	2		0504	.72	.74			F
CRON	07	0502E	0508	0502E	S17	W04	.242	12336	6.9		6D	-N		V	0502	.90				
MITK	07	0506E	0517D		S16	W03	.221	12336	7.0		11D	-N		C	0506	1.55	1.60			E
TEHR	07	0517	0527	0519	S16	W09	.263	12336	6.5		10	-N	3	C		.28				DE
7 STATIONS REPORTING GROUP 48530. 1 STATIONS OBSERVING AND NOT REPORTING.																				
GRP48530	07	0730	0753	0743	S14	W01	.182	12336	7.2		23	--F				1.64				5 4 3 8
CRON	07	0518E	0746	0743	S14	W01	.182	12336	7.1		148D	-F		V	0743	.45				
MANI	07	0534E	0539	0535U	S14	E00	.181	12336	7.2		5D	-F	1		0535	.31	.32			
ISTA	07	0730	0751		S14	E00	.181	12336	7.3		21	-F								
WEND	07	0739E	0756		S14	W01	.182	12336	7.2		17D	1N		V		4.13				
ATHN	07	0740E	0759	0742	S14	W02	.184	12336	7.2		19D	-N	3	V		.33				DE
48530	07	0725	0753	0729	S12	E00	.147	12336	7.3		28	*-N				.62				4 4 4 8
ATHN	07	0725	0736	0729	S15	W01	.199	12336	7.2		11	-B	2	V		.33				DE
ABST	07	0725	0757	0727	S14	E01	.182	12336	7.4		32	-F		C	0727	.72	.70			D
CANR	07	0727E	0727D		S07	W01	.062	12336	7.2			-F		V	0727	.30	.30			
MANI	07	0731E	0805D	0731U	S13	E00	.164	12336	7.3		34D	-N	2		0731	1.13	1.16			F
GRP48531	07	0837	0910	0847	S15	W04	.209	12336	7.1		33	-N				1.49				6 6 5 6
MANI	07	0836	0854D	0850	S15	W05	.216	12336	7.0		18D	-N	2		0850	.93	.94			F
ISTA	07	0837	0914		S15	W03	.205	12336	7.1		37	-N								
ATHN	07	0838E	0911	0842	S14	W04	.193	12336	7.1		33D	-N	3	V		1.32				DE
TEHR	07	0838	0913	0848	S15	W04	.209	12336	7.1		35	1N	3	V		2.64				F
MEUD	07	0838E	0851D		S14	W04	.193	12336	7.1		13D	-N		C	0846	1.55	1.50			C
CANR	07	0840E	0900		S17	W06	.253	12336	6.9		20D	-N		V	0842	1.00	1.00			
GRP48532	07	1030	1048	1036	S15	W12	.283	12336	6.5		18	--F				.38				2 2 2 4
MONT	07	1029	1033	1031	S15	W12	.283	12336	6.5		4	-F		C	1031	.10				
ATHN	07	1031	1103	1040	S14	W12	.272	12336	6.5		32	-F	3	V		.66				F
GRP48533	07	1040	1106	1053	S16	W11	.284	12336	6.6		26	--N				.71				4 4 4 6
MONT	07	1037	1104	1048	S17	W10	.286	12336	6.7		27	-N		C	1048	1.13				
TEHR	07	1039	1102D	1052	S15	W11	.271	12336	6.6		23D	-N	3	V		.66				F
CANR	07	1044	1107		S16	W12	.295	12336	6.5		23	-N		V	1050	.60	.60			
RAMY	07	1100E	1107	1100U	S17	W09	.277	12336	6.8		7D	-N	1	V		.46				DE
GRP48537	07	1921	1938	1924	N13	W08	.315	12335	7.2		17	--F				.38				2 2 2 2
PALE	07	1921	1938	1924	N14	W08	.330	12335	7.2		17	-F	3	C		.45				F S
RAMY	07	1923E	1935D	1923U	N12	W07	.293	12335	7.3		12D	-F	3	V		.31				DE
2 STATIONS REPORTING GROUP 48538. 0 STATIONS OBSERVING AND NOT REPORTING.																				
GRP48538	07	1953	2035	2009	S18	W04	.258	12336	7.5		42	-N				1.34				2 2 2 2
RAMY	07	1953E	2035	2008U	S17	W03	.238	12336	7.6		42D	-N	3	V		1.44				F S
PALE	07	2001E	2034	2010	S18	W04	.258	12336	7.5		33D	-N	3	V		1.24				DE
PALE	07	2001E	2034	2003	S18	W04	.258	12336	7.5		33D	-N	3	V		.52				DE
48538	07	1948	2037	2003	S16	W08	.254	12336	7.2		49	*-F				1.07				2 2 2 2
PALE	07	1948	2038	2012	S17	W13	.318	12336	6.8		50	-N	3	C		1.44				DE S
RAMY	07	1953E	2035	1954U	S17	W03	.238	12336	7.6		42D	-F	3	V		.70				F S
PALE	07	2035	2059	2040	S14	W11	.260	12336	7.0		24	-F	2	C		.36				F
539 PALE	07	2053E	2128	2057U	S18	W14	.340	12336	6.8		35D	--F	3	V		.83				2
540 PALE	07	2108E	2120	2109	S13	W10	.236	12336	7.1		12D	--F	3	V		.93				F 2
2 STATIONS REPORTING GROUP 48541. 0 STATIONS OBSERVING AND NOT REPORTING.																				
GRP48541	07	2223	2327	2235	S16	W12	.295	12336	7.0		64	--F				.83				2 2 2 2
MANI	07	2223E	2320	2238	S19	W07	.290	12336	7.4		57D	-N	2		2238	.62	.65			E
PALE	07	2228E	2334	2231	S15	W16	.333	12336	6.7		66D	-F	3	V		1.03				
MANI	07	2330	2355	2334	S15	W10	.260	12336	7.2		25	-N	2		2334	.72	.75			E
48541	07	2228	2330	2251	S16	W15	.330	12336	6.8		62	*-N				1.24				2 1 1 2
MANI	07	2228	2330	2251	S16	W15	.330	12336	6.8		62	-N	2		2251	1.24	1.31			E
PALE	07	2315E	2329	2318	S21	W09	.334	12336	7.3		14D	-F	3	V		.41				DE
542 PALE	08	0022	0031	0024U	S17	W22	.430	12336	6.4		9	--F	2	C		.27				H 2
544 PALE	08	0327	0358	0344	S14	W15	.312	12336	7.0		31	--N	1	C		.63				F 4

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS					REMARKS
	DATE 1973 MAY	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hg	MAX. INT. %	
546 ATHN	08	0516	0533	0519	S18	W19	.481	12336	6.8	17	--N	1	C		.33				DE 3
GRP48548	08	0608	0615	(0609)	S13	W21	.388	12336	6.7	7	--F				.73				2 2 2 4
ATHN	08	0605E	0615	0607	S11	W22	.392	12336	6.6	18D	-N	3	V		.66				F
CAPS	08	0610	0614		S15	W19	.374	12336	6.8	4	-F	3	V	0611	.80	.90		(150)	C
GRP48549	08	1120	1140	1123	S13	E22	.403	12338	10.1	20	--F				.26				2 2 2 4
RAMY	08	1120	1140	1122	S12	E22	.397	12338	10.1	20	-F	5	V		.19				DE
ATHN	08	1122E	1140	1123	S14	E22	.409	12338	10.1	18D	-F	3	V		.33				DE
GRP48551	08	1202	1214	1203	S13	W16	.317	12336	7.3	12	--F				.57				4 4 4 4
RAMY	08	1200	1214	1202	S13	W15	.303	12336	7.4	14	-F	5	V		.37				DE
ATHN	08	1201E	1213	1202	S12	W17	.323	12336	7.2	12D	-F	2	V		.83				DE
CAPS	08	1202	1215		S15	W15	.321	12336	7.4	13	-N	3	V	1205	.50	.50		(182)	C
CATA	08	1205	1215D	1205	S12	W16	.309	12336	7.3	10D	-N		P	1205	.58	.61		(178)	
GRP48553	08	2123	2145	2127	S12	W23	.412	12336	7.2	22	--F				.36				2 2 2 3
PALE	08	2122E	2145	2127U	S12	W23	.412	12336	7.2	23D	-F	2	C		.45				F
HUAN	08	2124	2127D		S12	W23	.412	12336	7.2	3D	-F	1	P	2127	.26	.28			
554 PALE	08	2311E	2328	2312U	S13	W26	.460	12336	7.0	17D	--F	2	C		.55				F 4
GRP48555	09	0435	0452	0439	S13	W26	.461	12336	7.2	17	-N				1.51				6 6 6 7
TACH	09	0432	0452D	0439	S15	W26	.472	12336	7.2	20D	1F		C	0439	3.19	3.60	2.58	56	ER
ATHN	09	0435	0451	0438	S13	W26	.461	12336	7.2	16	-N	2	C		1.32				DE
MANI	09	0435E	0459D	0438U	S12	W25	.442	12336	7.3	24D	-N	1		0438	.83	.92			F
TEHR	09	0436	0453	0448	S14	W27	.480	12336	7.2	17	-N	3	C		1.09				F
PALE	09	0437E	0449D	0438U	S13	W26	.461	12336	7.2	12D	-N	1	V		1.24				F
CRON	09	0441E	0445		S13	W25	.447	12336	7.3	4D	-F		V		1.40				
GRP48556	09	0612	0625	0613	S08	W20	.349	12336	7.8	13	--F				.82				3 2 2 7
MANI	09	0609E	0617D	0609U	S19	W13	.345	12336	8.3	8D	-N	1		0609	.83	.86			F
ATHN	09	0612	0629	0614	S08	W19	.333	12336	7.8	17	-N	2	C		.99				DE
TEHR	09	0612	0620	0612	S08	W20	.349	12336	7.8	8	-F	3	C		.64				F
GRP48557	09	0620	0750	0625	S15	W43	.694	12332	6.0	90	-F				1.01				3 3 3 8
ATHN	09	0620	0658D	0623	S13	W44	.701	12332	6.0	38D	-F	1	C		.66				U F
TEHR	09	0625E	0750	0644	S18	W41	.678	12332	6.2	85D	1F	3	V		2.06				F
MANI	09	0626E	0635D	0626U	S14	W43	.691	12332	6.0	9D	-N	1		0626	.31	.43			
48557	09	0623	0750	0650	S15	W43	.694	12332	6.0	87	*1F				2.54				3 3 3 7
TEHR	09	0621E	0818	0650	S15	W44	.705	12332	6.0	109D	1F	3	V		2.19				F
BUCA	09	0625	0800		S14	W43	.691	12332	6.0	95	1N		P	0651	3.32	4.60			S
CRON	09	0634E	0720		S15	W43	.694	12332	6.0	46D	1F		V		2.10				
48557	09	0636	0732	0703	S13	W46	.725	12332	5.8	56	*1N				1.98				3 3 2 10
ISTA	09	0630	0730		S12	W49	.758	12332	5.6	60	-N								B
ABST	09	0641	0734	0702	S14	W46	.727	12332	5.8	53	1F		C	0702	1.89	2.70			E
ABST	09	0641	0734	0702	S11	W45	.710	12332	5.9	53	1F		C	0702	1.80	2.50			E
MANI	09	0703E	0716D	0703U	S14	W44	.703	12332	6.0	13D	1N	1		0703	2.86	2.90			
GRP48559	09	1315	1327	1317	S13	W30	.518	12336	7.3	12	--F				.46				2 2 1 6
RAMY	09	1315	1332	1317	S13	W30	.518	12336	7.3	17	-F	4	C		.46				DE
HUAN	09	1315	1322		S13	W30	.518	12336	7.3	7	-F	1	C	1316					
GRP48560	09	1632	1647	1635	S13	W35	.587	12336	7.1	15	--F				.46				3 3 1 6
RAMY	09	1630	1654	1633	S13	W32	.546	12336	7.3	24	-F	4	C		.46				DE
HUAN	09	1633	1646	1636	S13	W33	.559	12336	7.2	13	-F	1	C						D
BOUL	09	1635E	1640	1635E	S14	W41	.667	12336	6.6	5D	-F		V	1635		.59			
	09	1933	1938	NO FLARE PATROL															
GRP48566	10	1539	1608	1548	S12	W45	.712	12336	7.3	29	--F				.65				2 2 1 6
RAMY	10	1534	1618	1548	S12	W45	.712	12336	7.3	44	-F	4	C		.65				DE
HUAN	10	1544	1558	1547	S12	W44	.700	12336	7.4	14	-F	1	C	1547					E
GRP48567	10	1638	1715	1644	S08	W43	.682	12336	7.5	37	-N				.67				3 3 3 5
RAMY	10	1634	1727	1645	S09	W41	.658	12336	7.6	53	-N	4	C		.74				DE
RAMY	10	1634	1727	1651	S09	W41	.658	12336	7.6	53	-F	4	C		1.21				DE
PALE	10	1638E	1702	1640U	S07	W44	.694	12336	7.4	24D	-N	2	C		.81				F
HUAN	10	1643	1717	1646	S08	W44	.695	12336	7.4	34	-N	1	C	1646	.46	.63			E
	10	1851	1905	NO FLARE PATROL															
	10	1949	1952	NO FLARE PATROL															

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION — MIN.	IMPORTANCE	OBS. COND.	OBS. TYPE	MEASUREMENTS					REMARKS
					APPROX.		CENTRAL DISTANCE	HGMATH PLAGE REGION	CMP DAY										
	DATE 1973 MAY	START	END	MAX. PHASE	LAT.	MER. DIST.								TIME — UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	
GRP48569	11	1452	1511	1455	N15	W52	.815	12335	7.7	19	--F				.44				3 3 2 8
RAMY	11	1450	1509	1457	N15	W51	.805	12335	7.8	19	-N	4	C		.37				DE
BOUL	11	1452	1520	1452E	N14	W53	.822	12335	7.6	28	-F		V	1452		.75			
ATHN	11	1454	1503	1457	N17	W52	.820	12335	7.7	9	-F	3	C		.50				DE
	11	1749	1753	NO FLARE PATROL															
572 BOUL	11	1830	1849	1835	N06	W75	.968	12346	6.1	19	--F		V	1835		.80			2
	11	1858	1931	NO FLARE PATROL															
	11	1932	1944	NO FLARE PATROL															
	11	1954	2008	NO FLARE PATROL															
	11	2028	2053	NO FLARE PATROL															
	11	2054	2224	NO FLARE PATROL															
	12	2101	2105	NO FLARE PATROL															
	13	2000	2032	NO FLARE PATROL															
	13	2038	2040	NO FLARE PATROL															
GRP48576	14	1253	1311	1254	N06	E90	1.000	12352	21.3	18	-B				.31				3 3 1 7
RAMY	14	1252	1312	1254	N07	E90	1.000	12352	21.3	20	-B	3	C						DE
MEUD	14	1252	1258D	1253	N06	E90	1.000	12352	21.3	6D	-N		C	1253	.31				D
CAPS	14	1254	1310		N05	E90	1.000	12352	21.3	16	-B	3	V						
578 PALE	14	1706	1712	1708	N07	W24	.437	12345	12.9	6	--F	3	C		.29				4
579 MITK	15	0145	0205	0150	N05	E90	1.000	12352	21.8	20	1N		C	0150	1.65				EH 5
GRP48587	15	1245	1341	1336	S09	E32	.536	12349	17.9	56	--F				.98				2 2 2 4
CAPS	15	1243	1335		S08	E33	.549	12349	18.0	52	-N	2	V	1312	1.60	1.90		(162)	
HUAN	15	1247	1255D		S10	E32	.539	12349	17.9	8D	-F	1	P	1251	.21	.24			DT
HUAN	15	1329	1347	1336	S08	E30	.505	12349	17.8	18	-F	1	C	1336	.36	.42			E
	15	2025	2045	NO FLARE PATROL															
GRP48589	16	0454	0521	0458	N05	E70	.942	12352	21.5	27	1N				1.39				5 5 5 6
CULG	16	0453	0530	0459	N05	E69	.936	12352	21.4	37	1N		C	0459	.72				
TACH	16	0453E	0508D	0457	N07	E73	.959	12352	21.7	15D	1F		C	0457	1.83		1.97	49	E
MANI	16	0455E	0535	0458	N05	E70	.942	12352	21.5	40D	1N	2		0458	2.06	4.42			FS
TEHR	16	0455	0525	0500	N05	E69	.936	12352	21.4	30	1N	4	V		1.55				F
CRON	16	0456E	0507	0456E	N03	E69	.935	12352	21.4	11D	1N		V	0456	.80				
6 STATIONS REPORTING GROUP 48594. 1 STATIONS OBSERVING AND NOT REPORTING.																			
GRP48594	17	0703	0740	0708	N06	E53	.805	12352	21.3	37	-N				1.89				4 4 4 7
MANI	17	0702	0723	0706	N06	E53	.805	12352	21.3	21	-N	1		0706	1.03	1.69			F
CANR	17	0703	0704D	0704	N07	E52	.796	12352	21.2	1D	1F		V	0704	3.00	4.50			
TEHR	17	0704	0745	0712	N07	E52	.796	12352	21.2	41	-N	3	C		1.00				F
UPIC	17	0707E	0753	0709	N05	E54	.814	12352	21.3	46D	1B		P	0709	2.53				
48594	17	0708	0743	0725	N06	E53	.805	12352	21.3	35	*-N				.70				3 3 2 6
CATA	17	0705E	0725D	0720	N04	E54	.813	12352	21.3	20D	-N		P	0720	.87	1.49		(182)	
ISTA	17	0710	0745		N07	E52	.796	12352	21.2	35	1N								F
TEHR	17	0721E	0740	0730	N08	E53	.808	12352	21.3	19D	-N	3	V		.52				F
GRP48596	17	1350	1439	1357	N06	E51	.784	12352	21.4	49	-N				1.52				4 3 3 4
RAMY	17	1340	1351D	1348	N07	E56	.836	12352	21.8	11D	-N	3	C		.37				DE
TEHR	17	1344	1355	1346	N09	E54	.819	12352	21.6	11	-N	3	C		.27				F
HUAN	17	1344	1448	1356U	N05	E50	.772	12352	21.3	64	-N	1	C	1358	1.24	1.94			E
RAMY	17	1346	1351D	1350U	N06	E50	.773	12352	21.3	5D	1N	3	C		2.13				F
RAMY	17	1352	1430	1356	N07	E50	.775	12352	21.3	38	1N	3	V		1.86				F
TEHR	17	1354	1432	1358	N06	E49	.762	12352	21.3	38	-N	3	C		1.45				F
MCMA	17	1426E	1446D		N02	E49	.757	12352	21.3	20D	-N		C	1430	.31	.50			D
	17	1857	1902	NO FLARE PATROL															
GRP48597	17	1908	1926	1910	N08	E53	.808	12352	21.8	18	1B				1.24				4 3 2 4
PALE	17	1908E	1926D	1911U	N07	E54	.816	12352	21.8	18D	1N	2	V		1.44				DE
HUAN	17	1908	1922D		N07	E53	.806	12352	21.8	14D	-B	1	P	1911	1.03	1.76			E
BOUL	17	1908E	1926	1909	N09	E51	.789	12352	21.6	18D	1B		V	1909		2.50			
MCMA	17	1908E	1927D		N06	E52	.795	12352	21.7	13D	-N		P	1926	.41	.70			E
	17	1943	1950	NO FLARE PATROL															

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS					REMARKS
	DATE 1973 MAY	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hg	MAX. INT. %	
	17	2106	2129	NO FLARE PATROL															
598 PALE	17	2258	2308	2302	N07	E46	.730	12352	21.4	10	--F	2	C		.72				DE 4
599 PALE	17	2302	2311	2302	N01	E45	.709	12352	21.3	9	--F	2	C		.45				4
GRP48600	18	0025	0048	0029	N09	E45	.722	12352	21.4	23	--F				.60				2 2 2 3
PALE	18	0025	0048	0028	N08	E45	.720	12352	21.4	23	-N	2	C		.36				
MANI	18	0026E	0034D	0029	N09	E45	.722	12352	21.4	8D	-F	1		0029	.83	1.22			
GRP48601	18	0353	0406	0355	N09	E43	.699	12352	21.4	13	-N				1.18				2 2 2 4
MANI	18	0348	0400	0350	N09	E44	.711	12352	21.5	12	-F	1		0350	.62	.91			
TACH	18	0352	0405	0355	N09	E40	.662	12352	21.2	13	-N		C	0355	.91	1.21	2.40	54	E
MANI	18	0353	0406	0355	N07	E49	.764	12352	21.8	13	-N	1		0355	.83	1.27			F
GRP48603	18	0629	0641	0630	N11	E42	.693	12352	21.4	12	--F				.43				2 2 2 5
MANI	18	0628	0640	0630	N10	E43	.702	12352	21.5	12	-F	2		0630	.31	.44			F
BUCA	18	0630	0641		N11	E41	.681	12352	21.3	11	-F		C	0632	.55	.70			E
GRP48604	18	0800	0813	0802	N13	E40	.676	12352	21.3	13	-N				.99				5 5 5 10
MONT	18	0759	0813	0800	N13	E40	.676	12352	21.3	14	-N		C	0800	.72				E
ARCE	18	0800E	0815D		N13	E40	.676	12352	21.3	15D	-N		C	0800	.96	1.30			
CAPS	18	0800	0813		N13	E39	.664	12352	21.3	13	-B	3	V	0802	.90	1.20		(228)	C
MANI	18	0800	0818	0804	N13	E40	.676	12352	21.3	18	-N	2		0804	1.13	1.55			F
UPIC	18	0801	0808	0803	N14	E42	.704	12352	21.5	7	-N		P	0803	1.26				
GRP48605	18	1059	1118	1102	N11	E41	.681	12352	21.5	19	--N				.37				5 5 5 7
MEUD	18	1057	1112		N11	E41	.681	12352	21.5	15	-F		C	1101	.41	.50			
RAMY	18	1058E	1101D	1059U	N12	E40	.672	12352	21.5	3D	-F	3	V		.52				DE
CAPS	18	1100	1122		N10	E41	.678	12352	21.5	22	-B	3	V	1104	.40	.50		(220)	C
MONT	18	1101	1122	1104	N12	E40	.672	12352	21.5	21	-N		C	1104	.10				D
UPIC	18	1102E	1116U		N11	E42	.693	12352	21.6	14D	-F		P	1108	.42				
GRP48609	18	1311	1328	1314	N06	E38	.627	12352	21.4	17	--N				.55				8 8 7 11
UPIC	18	1259E	1340	1314	N10	E38	.640	12352	21.4	41D	-N		P	1314	1.47				KF
BOUL	18	1259	1310D	1302	N12	E38	.648	12352	21.4	11D	-F		V	1302		.50			
MCMA	18	1308E	1331D		N05	E36	.598	12352	21.2	23D	-N		C	1315	.41	.50			E
TEHR	18	1310E	1325	1312	N06	E37	.614	12352	21.3	15D	-N	3	V		.33				DE
CAPS	18	1310	1328		N08	E41	.671	12352	21.6	18	-B	3	V	1313	.80	1.00		(205)	C
HUAN	18	1310	1325	1314	N03	E37	.607	12352	21.3	15	-F	1	C	1314	.26	.32			
RAMY	18	1312	1325D	1314	N05	E38	.625	12352	21.4	13D	-N	3	V		.31				DE
BOUL	18	1313E	1322	1314	N06	E38	.627	12352	21.4	9D	-F		V	1322		.50			
CATA	18	1315	1320D	1315	N05	E37	.611	12352	21.3	5D	-N		P	1315	.29	.36		(166)	
CATA	18	1315	1320D	1315	N02	E37	.605	12352	21.3	5D	-F		P	1315	.29	.36		(148)	
GRP48610	18	1527	1559	1534	N07	E43	.694	12352	21.9	32	1B				1.64				6 6 5 6
CAPS	18	1525	1601	1534	N09	E46	.734	12352	22.1	36	1B	3	V	1530	1.80	2.50		(395)	
MCMA	18	1525	1555	1532	N06	E41	.666	12352	21.7	30	1B		C	1532	1.55	2.10			F
HUAN	18	1526	1557		N07	E43	.694	12352	21.9	31	-B	2	P	1532	1.08	1.47			E
BOUL	18	1527	1555	1529	N08	E42	.684	12352	21.8	28	1N		V	1529		4.80			
UPIC	18	1529E	1604U		N07	E42	.681	12352	21.8	35D	-B		P	1529	1.47				
CATA	18	1530	1600D	1540	N07	E42	.681	12352	21.8	30D	1B		P	1540	2.31	3.16		(269)	
611 HUAN	18	1930	1935	1932	N11	E37	.631	12352	21.6	5	--F	2	C	1932	.21	.26			D 3
GRP48612	18	2049	2051	2050	N11	E29	.527	12352	21.0	2	--F				.26				2 2 2 3
PALE	18	2048	2051	2049	N11	E29	.527	12352	21.0	3	-F	2	C		.36				
HUAN	18	2049	2051	2050	N11	E29	.527	12352	21.0	2	-F	1	C	2050	.15	.18			D
GRP48613	18	2154	2215	2157	N10	E33	.575	12352	21.4	21	-B				.80				2 2 2 2
PALE	18	2154	2217	2157	N09	E33	.571	12352	21.4	23	-B	2	C		1.08				DE
PALE	18	2154	2217	2200	N09	E33	.571	12352	21.4	23	-B	2	C		.91				DE
MCMA	18	2159E	2213		N10	E32	.562	12352	21.3	14D	-B		C	2159	.52	.60			E
614 PALE	18	2235E	2243	2238	S03	E90	1.000	12357	25.7	8D	-N	3	V		.41				DE 2
GRP48616	19	0003	0038	0007	N06	E29	.502	12352	21.2	35	--N				.44				2 2 2 3
MANI	19	0003	0028	0005	N06	E30	.516	12352	21.3	25	-N	1		0005	.52	.60			
PALE	19	0005E	0047	0009	N05	E27	.468	12352	21.0	42D	-N	2	C		.36				DE
GRP48617	19	0055	0153	0132	N07	E25	.448	12352	20.9	58	--N				.54				2 2 2 3
PALE	19	0055	0153D	0130	N06	E24	.426	12352	20.8	58D	-N	2	C		.36				DE
MANI	19	0133E	0144D	0133U	N08	E25	.453	12352	20.9	11D	-N	2		0133	.72	.82			F
GRP48619	19	1002	1014	1006	N11	E26	.486	12352	21.4	12	--N				.71				3 3 3 6
KIEV	19	1001	1010	1002	N09	E26	.473	12352	21.4	9	-F		C	1002	1.03	1.10		50	DI
TEHR	19	1003	1016	1005	N10	E27	.493	12352	21.4	13	-N	4	C		.64				F
RAMY	19	1009E	1015	1012U	N13	E26	.499	12352	21.4	6D	-N	3	C		.46				DE

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS					REMARKS
	DATE 1973 MAY	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	
GRP48621	19	1558	1614	1559	N11	E25	.472	12352	21.5	16	--N				.50				4 4 3 5
RAMY	19	1555E	1611	1558	N12	E24	.466	12352	21.5	160	-N	3	C		.56				DE
HUAN	19	1556	1615	1559	N11	E25	.472	12352	21.5	19	-N	1	C	1559	.36	.41			
BOUL	19	1559	1617	1600	N11	E24	.459	12352	21.5	18	-F		V	1600		1.80			
CATA	19	1600	1605D	1600	N10	E25	.465	12352	21.5	5D	-N		P	1600	.58	.65		(174)	
BOUL	19	1600E	1646D	1646U	N08	E26	.468	12352	21.6	46D	-B		V						
GRP48622	19	1702	1728	1705	N07	E26	.462	12352	21.7	26	--F				.23				2 2 2 3
PALE	19	1656	1734	1705	N07	E26	.462	12352	21.7	38	-N	3	C		.19				DE
HUAN	19	1707	1721		N07	E26	.462	12352	21.7	14	-F	1	C	1709	.26	.29			
GRP48623	19	1835	1846	1839	N11	E24	.459	12352	21.6	11	--F				.31				2 2 2 3
HUAN	19	1835	1842	1836	N11	E24	.459	12352	21.6	7	-F	1	C	1836	.26	.29			D
PALE	19	1842E	1849	1842U	N11	E23	.445	12352	21.5	7D	-F	2	C		.36				
624 PALE	19	2220E	2225	2223	N09	E21	.403	12352	21.5	5D	--F	2	C		.36				2
GRP48625	19	2233	2329	2246	N09	E19	.375	12352	21.4	56	2B				8.85				3 2 2 3
PALE	19	2233	2320	2245	N09	E20	.389	12352	21.4	47	1B	2	C		2.89				U H
CULG	19	2244E	2338D	2246	N09	E17	.347	12352	21.2	54D	3N		P	2246	14.81	14.90			F
MANI	19	2259E	2301D	2259U	N12	E21	.427	12352	21.5	2D	1B	2		2259	2.37	2.62			H
GRP48628	20	0448	0527	0452	N12	E14	.339	12352	21.3	39	1B				2.87				3 3 3 4
TEHR	20	0448	0520	0451	N10	E16	.342	12352	21.4	32	1B	3	C		2.11				F
CULG	20	0448	0542	0453	N16	E13	.378	12352	21.2	54	1N		C	0453	4.95	5.00			F
MANI	20	0449	0519	0452	N10	E13	.304	12352	21.2	30	-B	1		0452	1.55	1.62			F
GRP48629	20	0526	0554	0530	S10	W33	.555	12349	17.8	28	-N				1.40				2 2 2 3
CRON	20	0525E	0533		S10	W32	.541	12349	17.8	8D	-N		V	0533	1.80				
TEHR	20	0527	0615	0530	S10	W33	.555	12349	17.8	48	-N	3	C		.99				F
48629	20	0558	0705	0559	S09	W33	.552	12349	17.8	67	*1B				1.66				3 3 3 5
CULG	20	0525	0605D	0558	S10	W31	.527	12349	17.9	40D	1N		P	0558	1.75	2.00			
MANI	20	0555E	0625D	0559	S10	W33	.555	12349	17.8	30D	-B	1		0559	1.24	1.48			F
CAPS	20	0600	0705		S08	W34	.564	12349	17.7	65	1B	3	P	0602	2.00	2.40		(246)	U
GRP48630	20	0559	0611	0602	N08	E15	.310	12352	21.4	12	-B				1.61				4 4 4 5
CRON	20	0558	0605	0605D	N10	E17	.355	12352	21.5	7	-B		V	0605	.80				
CULG	20	0558	0605D	0600	N05	E13	.256	12352	21.2	7D	1N		P	0600	3.09	3.10			F
MANI	20	0559E	0617	0601	N10	E13	.304	12352	21.2	18D	-B	1		0601	1.34	1.40			F
CAPS	20	0600	0618		N08	E15	.310	12352	21.4	18	-B	3	P	0602	1.20	1.30		(460)	
GRP48631	20	0920	0956	0928	N10	E14	.317	12352	21.4	36	--N				.33				3 3 3 7
CAPS	20	0910	0942		N09	E14	.306	12352	21.4	32	-N	3	V	0923	.40	.40		(170)	CD
CANR	20	0920	0925D	0925	N12	E16	.363	12352	21.6	5D	-N		V	0925	.30	.30			
CATA	20	0930	1010	0930	N09	E13	.293	12352	21.4	40	-N		C	0930	.29	.30		(186)	
GRP48634	20	1140	1201	1142	N10	E13	.304	12352	21.5	21	--N				.38				5 5 5 7
CATA	20	1135	1205	1140	N09	E12	.281	12352	21.4	30	-N		C	1140	.58	.60		(158)	
RAMY	20	1140	1150	1142	N09	E12	.281	12352	21.4	10	-N	4	C		.37				DE
CANR	20	1140	1143D	1142	N17	E17	.429	12352	21.8	3D	-N		V	1143	.30	.30			
MCMA	20	1141	1205	1144	N08	E12	.270	12352	21.4	24	-N		C	1144	.26	.30			D
CAPS	20	1144	1202		N08	E13	.283	12352	21.5	18	-F	3	V	1145	.40	.40			C
GRP48635	20	1255	1317	1257	N09	E12	.281	12352	21.4	22	--B				.67				7 7 7 9
BOUL	20	1252	1330D	1256	N08	E12	.270	12352	21.4	38D	-N		V	1258	.75	.75			
CAPS	20	1255	1314		N09	E15	.319	12352	21.7	19	-B	3	V	1258	1.30	1.30		(297)	C
CANR	20	1255E	1310	1258	N11	E13	.316	12352	21.5	15D	-B		V	1300	.40	.40			
CATA	20	1255	1320	1255	N09	E12	.281	12352	21.4	25	-B		C	1255	.87	.90		(209)	
RAMY	20	1255	1314	1257	N10	E11	.281	12352	21.4	19	-B	4	C		.56				DE
MCMA	20	1255	1315	1257	N08	E12	.270	12352	21.4	20	-B		C	1257	.41	.40			E
HUAN	20	1300E	1314		N08	E12	.270	12352	21.4	14D	-N	1	P	1305	.41	.43			
GRP48636	20	1450	1510	1456	N09	E11	.269	12352	21.4	20	--F				.28				6 6 6 8
MCMA	20	1447	1514	1455	N08	E12	.270	12352	21.5	27	-N		C	1455	.21	.20			D
CAPS	20	1449	1510		N10	E13	.304	12352	21.6	21	-F	2	V	1453	.30	.30			
MEUD	20	1450	1506	1459	N10	E09	.260	12352	21.3	16	-N		C	1459	.31	.30			D
HUAN	20	1450	1504	1458	N08	E11	.257	12352	21.4	14	-F	2	C	1458	.21	.21			D
BOUL	20	1450	1515	1454	N08	E12	.270	12352	21.5	25	-N		V	1500	.35	.35			
RAMY	20	1451	1510	1456	N09	E10	.258	12352	21.4	19	-F	4	C		.28				DE
GRP48637	20	1601	1617	1604	S11	E67	.921	12357	25.7	16	--F				.22				4 4 3 7
RAMY	20	1600E	1615	1601U	S10	E65	.906	12357	25.5	15D	-N	4	V		.31				DE
HUAN	20	1600	1612	1606	S11	E67	.921	12357	25.7	12	-F	1	C						D
MCMA	20	1601	1614	1605	S12	E66	.914	12357	25.6	13	-F		C	1605	.21	.50			D
BOUL	20	1604	1628	1605U	S09	E69	.933	12357	25.8	24	-N		V	1610	.15	.43			

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS					REMARKS
	DATE 1973 MAY	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hg	MAX. INT. %	
GRP48638	20	1653	1709	1654	N09	E09	.247	12352	21.4	16	--B				.41				2 2 2 3
HUAN	20	1653	1708	1654	N09	E09	.247	12352	21.4	15	-N	2	C	1654	.46	.48			E
MCMA	20	1653	1710	1654	N09	E09	.247	12352	21.4	17	-B		C	1654	.36	.40			E
639 HUAN	20	1808	1812	1809	S13	W39	.644	12349	17.8	4	--F	1	C						3
GRP48640	20	1825	1839	1829	N09	E09	.247	12352	21.4	14	--B				.51				4 4 4 4
BOUL	20	1824	1843	1826	N08	E10	.245	12352	21.5	19	-N		V	1830	.75	.75			
HUAN	20	1825	1840	1829	N08	E08	.223	12352	21.4	15	-N	2	C	1829	.31	.32			
MCMA	20	1827E	1838D		N09	E08	.236	12352	21.4	110	-B		P	1827	.36	.40			E
CANR	20	1830E	1836	1833	N10	E09	.260	12352	21.4	60	-B		V	1833	.68	.60			
GRP48641	20	2017	2042	2023	N08	E08	.223	12352	21.4	25	--N				.51				3 3 3 3
PALE	20	2016	2020D	2018	N08	E08	.223	12352	21.4	40	-N	2	C		.36				F
HUAN	20	2017	2037	2022	N09	E07	.227	12352	21.4	20	-N	1	C	2022	.41	.42			E
BOUL	20	2029E	2046	2029E	N08	E09	.234	12352	21.5	170	-N		V	2035	.75	.75			
642 HUAN	20	2053	2101D		S10	E62	.884	12357	25.5	80	--F	1	P	2056	.62	1.25			E 2
	20	2101	2155	NO FLARE PATROL															
GRP48643	20	2145	2210	2152	N10	E09	.260	12352	21.6	25	-B				1.27				2 2 2 2
BOUL	20	2145	2210	2148	N09	E09	.247	12352	21.6	25	-B		V	2150	1.70	1.70			
MANI	20	2155E	2206D	2155U	N11	E08	.264	12352	21.5	110	-N	1		2155	.83	.86			FH
644 PALE	20	2228E	2248	2237U	N08	E06	.204	12352	21.4	200	--F	2	C		.36				F 3
GRP48645	21	0319	0351	0322	N08	E04	.187	12352	21.4	32	--N				.72				2 1 1 5
MANI	21	0319	0351	0322	N08	E04	.187	12352	21.4	32	-N	2		0322	.72	.74			FH
TEHR	21	0336	0343	0339	N12	E02	.244	12352	21.3	7	-F	4	C		.21				DE
GRP48646	21	0400	0418	0405	N09	E03	.198	12352	21.4	18	--N				.56				3 3 3 4
MANI	21	0359	0423	0402	N09	E02	.194	12352	21.3	24	-N	2		0402	1.03	1.05			FH
TEHR	21	0401	0419	0405	N10	E02	.211	12352	21.3	18	-N	4	C		.19				DE
PALE	21	0407E	0413	0407U	N08	E05	.194	12352	21.5	60	-N	1	C		.45				F
GRP48649	21	0636	0700	0641	N10	E01	.209	12352	21.4	24	--F				.74				3 3 3 6
BUCA	21	0635	0710		N10	E01	.209	12352	21.3	35	-F		C	0641	.77	.80			
MANI	21	0636	0657	0641	N10	E02	.211	12352	21.4	21	-F	2		0641	.83	.84			F
UPIC	21	0641E	0652		N09	E01	.192	12352	21.4	110	-N		P	0641	.63				E
GRP48651	21	0813	0827	0816	N07	E01	.157	12352	21.4	14	--N				.38				4 4 4 10
TEHR	21	0808	0817	0812	N07	E01	.157	12352	21.4	9	-N	4	C		.21				F
MONT	21	0811	0821	0816	N07	W03	.165	12352	21.1	10	-N		C	0816	.41				
CATA	21	0815	0830	0815	N06	W03	.149	12352	21.1	15	-N		C	0815	.58	.58		(162)	
BUCA	21	0819	0838		N07	E08	.208	12352	21.9	19	-F		C	0820	.32	.30			D
GRP48652	21	0848	0908	0853	S08	E56	.830	12357	25.6	20	-N				1.08				4 4 4 8
MONT	21	0847	0855	0851	S09	E56	.830	12357	25.6	8	-N		C	0851	.72				E
MANI	21	0847	0915D	0849	S09	E56	.830	12357	25.6	230	-N	1		0849	.83	1.42			F
CATA	21	0850	0915	0855	S08	E56	.830	12357	25.6	25	1N		C	0855	1.44	2.59		(166)	
TEHR	21	0852E	0906	0856U	S05	E57	.838	12357	25.6	140	-F	4	V		1.32				F
GRP48654	21	1115	1125	1116	N12	W02	.244	12352	21.3	10	--N				.49				4 4 4 9
MCMA	21	1114	1120	1115	N10	W02	.211	12352	21.3	6	-F		C	1115	.31	.30			E
BUCA	21	1115	1138		N13	W01	.259	12352	21.4	23	-N		C	1115	.65	.70			
MONT	21	1116	1121	1117	N12	W03	.247	12352	21.2	5	-N		C	1117	.52				D
RAMY	21	1117E	1121	1117U	N11	W01	.226	12352	21.4	40	-N	4	C		.46				DE
GRP48655	21	1211	1226	1215	N11	W02	.228	12352	21.4	15	-N				1.01				7 7 6 10
RAMY	21	1145	1155	1148	N11	W01	.226	12352	21.4	10	-F	4	C		.46				DE
BUCA	21	1155	1240		N12	W02	.244	12352	21.3	45	-N		C	1214	1.31	1.40			D
UPIC	21	1205	1223		N11	W02	.228	12352	21.4	18	-N		P	1215	1.26				
RAMY	21	1210	1227	1212	N10	W02	.211	12352	21.4	17	-N	4	C		1.11				DE
MCMA	21	1211E	1225D		N11	W02	.228	12352	21.4	140	-N		P	1216	.83	.90			E
HUAN	21	1212	1219		N11	W01	.226	12352	21.4	7	-F	1	C						E
CATA	21	1215	1225	1215	N10	W01	.209	12352	21.4	10	-B		C	1215	1.16	1.18		(224)	
MONT	21	1218E	1224	1218	N12	W03	.247	12352	21.3	60	-N		C	1218	.41				CE
GRP48657	21	1639	1702	1643	N11	W04	.235	12352	21.4	23	--N				.56				5 5 4 6
PALE	21	1638E	1656D	1642U	N11	W04	.235	12352	21.4	180	-N	2	C		.27				F H
RAMY	21	1639	1700D	1642	N10	W04	.219	12352	21.4	210	-N	3	V		.52				DE
HUAN	21	1639	1702		N11	W04	.235	12352	21.4	23	-F	1	C						
MCMA	21	1648E	1655D		N11	W04	.235	12352	21.4	150	-N		P	1645	.41	.40			EH
UPIC	21	1643E	1656D	1644U	N10	W04	.219	12352	21.4	130	-N		P	1644	1.05				F
GRP48659	21	1731	1805	1755	N16	W61	.990	12358	15.7	34	--F				.52				2 2 1 5
HUAN	21	1731	1800		N14	W61	.990	12358	15.7	29	-F	1	C						
PALE	21	1755E	1809D	1755U	N17	W60	.988	12358	15.7	140	-N	3	V		.52				

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					APPROX.		CENTRAL	MCMATH PLAGE	CMP										
	DATE 1973 MAY	START	END	MAX. PHASE	LAT.	MER. DIST.	DISTANCE	REGION	DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hg	MAX. INT. %	
GRP48660	21	1751	1802	(1753)	N08	W08	.221	12352	21.1	11	--F				1.05				3 3 2 5
MCMA	21	1751E	1805D		N09	W07	.225	12352	21.2	14D	-F		P	1753	.62	.60			E
UPIC	21	1753E	1801D		N06	W09	.208	12352	21.1	8D	-N		P	1753	.85				
UPIC	21	1753E	1801		N12	W06	.262	12352	21.3	8D	-F		P	1753	.63				
PALE	21	1755E	1801D		N07	W09	.220	12352	21.1	6D	-F	2	C						
GRP48661	21	1820	2018	(1856)	N15	W84	.996	12358	15.5	118	-B								4 2 0 6
CANR	21	1820E	1850D		N13	W80	.987	12358	15.8	30D	-N		V						
HUAN	21	1843	1910		N14	W81	.990	12358	15.7	27	-N	1	C						
MCMA	21	1852E	2020D		N15	W86	.998	12358	15.3	88D	-B		P	1856					HK
PALE	21	1903E	1906D		N17	W80	.988	12358	15.8	3D	-N	1	C						F
HUAN	21	1930	1957		N14	W83	.994	12358	15.6	27	-N	1	C						K
HUAN	21	2007	2037		N14	W83	.994	12358	15.6	30	-F	1	C						
662 RAMY	21	2143E	2156	2149	N11	W07	.255	12352	21.4	13D	--N	2	V		.62				DE 2
663 MANI	21	2217E	2231D	2217U	N13	W84	.996	12358	15.6	14D	-N	1		2217	.62	1.76			3
665 MITK	21	2240	2306	2244	N15	W90	1.000	12358	15.2	26	1N		C	2244	1.13				E 3
666 MITK	22	0133	0139D	0136	N15	W90	1.000	12358	15.3	6D	1N		C	0136	.72				D 5
GRP48667	22	0639	0848	0810	N18	W89	1.000	12358	15.6	129	-F				.64				5 2 2 12
CRON	22	0639E	0645		N16	W87	.999	12358	15.8	6D	-N		V		.30				
CATA	22	0640	0910	0820	N17	W90	1.000	12358	15.5	150	1F		C	0820	.87			(135)	T
MEUD	22	0746	0757	0751	N20	W90	1.000	12358	15.6	11	-N		C	0751	.62				A
MONT	22	0817	0825	0820	N18	W87	.999	12358	15.8	8	-N		C	0820	.41				
KHAR	22	0844E	1015D		N18	W90	1.000	12358	15.6	91D	2F		P	0845			2.80		CD
GRP48668	22	0836	0848	0846	N08	W11	.255	12352	21.5	12	--F				.41				3 3 2 10
CAPS	22	0835	0845		N07	W08	.207	12352	21.8	10	-F	3	V	0840	.40	.40		(152)	C
MONT	22	0835	0844	0837	N07	W12	.257	12352	21.5	9	-N		C	0837	.21				D
ISTA	22	0838	0848		N09	W12	.278	12352	21.5	10	-F								
MONT	22	0839	0844	0841	N09	W12	.278	12352	21.5	5	-N		C	0841	.41				DH
MONT	22	0846	0852	0846	N09	W12	.278	12352	21.5	6	-N		C	0846	.72				
GRP48670	22	0926	0951	0936	N09	W14	.304	12352	21.3	25	--N				.24				4 4 3 8
MONT	22	0914	0924	0916	N10	W12	.290	12352	21.5	10	-N		C	0916	.10				D
BUCA	22	0922	0954		N09	W13	.291	12352	21.4	32	-N		C	0933	.32	.30			
CATA	22	0925	0955	0935	N09	W14	.304	12352	21.3	30	-B		C	0935	.29	.30		(234)	
MONT	22	0925	0951	0936	N10	W15	.327	12352	21.3	26	-N		C	0936	.10				DH
ISTA	22	0933	0942		N10	W13	.302	12352	21.4	9	-N								D
MONT	22	0935	0949	0939	N09	W19	.372	12352	21.0	14	-F		C	0939	.10				
GRP48672	22	1053	1102	1056	N12	W11	.303	12352	21.6	9	--F				.74				3 3 3 7
RAMY	22	1048	1103	1051	N15	W10	.335	12352	21.7	15	-F	2	C		.46				DE
ZURI	22	1051	1101	1055	N15	W13	.362	12352	21.5	10	-F		C	1055	1.67	1.80			
MONT	22	1101	1102	1101	N07	W09	.219	12352	21.8	1	-F		C	1101	.10				
GRP48674	22	1716	1806	1719	N13	W19	.407	12352	21.3	50	-N				2.18				4 4 4 4
PALE	22	1716E	1805	1719	N12	W21	.424	12352	21.1	49D	-N	3	C		.99				F H
HUAN	22	1716	1806		N12	W21	.424	12352	21.1	50	-N	1	C	1721	.67	.74			E
WEND	22	1718E	1800D		N13	W20	.420	12352	21.2	42D	1N		V		5.16				
UPIC	22	1722E	1749D		N14	W13	.349	12352	21.7	27D	-N		P	1722	1.90				F
675 PALE	22	1915	1924	1917	S06	E40	.644	12357	25.8	9	--F	2	C		.27				3
GRP48676	22	1920	1934	1925	N15	W13	.362	12352	21.8	14	--F				.41				3 3 3 3
PALE	22	1917	1935	1925	N16	W12	.366	12352	21.9	18	-N	3	C		.55				DE
RAMY	22	1919	1934	1923	N14	W13	.349	12352	21.8	15	-F	3	C		.37				DE
HUAN	22	1925	1932	1926	N15	W13	.362	12352	21.8	7	-F	1	C	1926	.31	.33			
GRP48677	23	0236	0310	0246	S10	W75	.966	12349	17.5	34	--N				.57				2 1 1 6
TEHR	23	0236	0310	0246	S10	W75	.966	12349	17.5	34	-N	3	C		.57				F
PALE	23	0302	0312	0306	S10	W71	.945	12349	17.8	10	-F	2	C		.19				
GRP48679	23	0533	0539	0535	N11	W26	.482	12352	21.3	6	--N				.44				2 2 2 3
MANI	23	0532	0540	0535	N11	W26	.482	12352	21.3	8	-N	2		0535	.52	.59			
TEHR	23	0533	0538	0535	N10	W25	.462	12352	21.4	5	-N	3	C		.36				F
GRP48680	23	0621	0645	0625	N12	W27	.502	12352	21.2	24	--F				.93				5 5 5 7
BUCA	23	0620	0704		N13	W27	.509	12352	21.2	44	-F		C	0633	2.21	2.50			
CATA	23	0620	0650	0625	N13	W27	.509	12352	21.2	30	-N		C	0625	.58	.67		(182)	
CRON	23	0620E	0628		N08	W30	.522	12352	21.0	8D	-F		V		.50				
TEHR	23	0621	0638	0625	N10	W27	.490	12352	21.2	17	-F	3	C		.55				F
CAPS	23	0622	0647		N15	W25	.498	12352	21.4	25	-N	3	V	0629	.80	1.00		(189)	C

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	DATE MAY	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	
GRP48684	23	1532	1553	1540	S13	W81	.987	12349	17.6	21	--F				.62				3 3 1 8
HUAN	23	1532	1551		S13	W82	.990	12349	17.5	19	-F	1	C						
MEUD	23	1535E	1555		S13	W82	.990	12349	17.5	20D	-F		C	1538	.62				
BOUL	23	1539E	1549D	1540	S14	W80	.984	12349	17.7	13D	-N		V	1540		.30			
GRP48686	23	1848	1903	1850	N03	E34	.564	12359	26.3	15	--N				.56				2 2 2 3
HUAN	23	1848	1903	1850	N03	E33	.549	12359	26.3	15	-N	2	C	1850	.57	.68			E
PALE	23	1849E	1902	1849	N02	E34	.562	12359	26.3	13D	-N	3	C		.55				DE
687 HUAN	23	2039	2050		S06	E33	.547	12357	26.3	11	--F	1	C	2043	.41	.49			E 2
688 HUAN	23	2132	2138		S14	W80	.984	12349	17.9	6	--F	1	C	2134	.15				D 2
GRP48690	23	2356	0028	0003	N15	W35	.622	12352	21.4	32	1N				1.73				3 3 3 5
MANI	23	2353	0038	0005	N14	W37	.642	12352	21.2	37	1N	2		0005	1.86	2.43			FE
PALE	23	2354	0034	0002	N15	W36	.634	12352	21.3	40	-N	3	C		1.54				U
BOUL	24	0000	0021	0003	N15	W33	.597	12352	21.5	21	1F		V	0003	1.80	2.20			
GRP48694	24	0659	0735	0706	N14	W37	.641	12352	21.5	36	-B				1.72				8 7 6 8
MANI	24	0657	0730	0700	N14	W40	.677	12352	21.3	33	1B	2		0700	2.06	2.78			FE
BUCA	24	0700	0820		N14	W40	.677	12352	21.3	80	1B		C	0701	2.21	2.90			
TEHR	24	0700E	0740	0706	N14	W37	.641	12352	21.5	40D	-B	4	V		1.44				F
KODA	24	0700	0800	0701	N10	W35	.598	12352	21.7	60	-N		V	0701			1.84		D
CAPS	24	0700	0730	0704	N16	W38	.662	12352	21.4	30	1B	3	V	0701	1.60	2.30		(300)	C
CRON	24	0701E	0730D	0701E	N15	W41	.693	12352	21.2	29D	-N		V	0701	1.40				
CATA	24	0705	0750	0720	N14	W40	.677	12352	21.3	45	1N		C	0720	2.02	2.75		(186)	
CANR	24	0707E	0720	0709	N14	W31	.566	12352	22.0	13D	-N		V	0709	1.60	1.80			
GRP48695	24	0728	0815	0740	S15	W90	1.000	12349	17.6	55	1F				.58				2 1 1 10
CATA	24	0720	0815	0740	S15	W90	1.000	12349	17.6	55	1F		C	0740	.58			(123)	
MONT	24	0801	0814	0808	S15	W90	1.000	12349	17.6	13	-N		C	0808	.41				
GRP48696	24	0847	0857	0850	S15	W90	1.000	12349	17.6	10	-N				.34				2 2 2 10
CATA	24	0845	0900	0850	S15	W90	1.000	12349	17.6	15	1N		C	0850	.58			(155)	
MONT	24	0848	0853	0849	S15	W90	1.000	12349	17.6	5	-N		C	0849	.10				D
GRP48693	24	1211	1240	1217	S05	E20	.346	12357	26.0	29	-N				1.58				9 9 9 9
WEND	24	1208	1236		S05	E22	.378	12357	26.2	28	1N		V		5.16				
RAMY	24	1208	1237	1214	S04	E20	.344	12357	26.0	29	-N	4	C		1.30				F
HUAN	24	1209	1236	1213	S05	E21	.362	12357	26.1	27	-N	2	C	1213	.77	.83			E
MONT	24	1210	1229	1212	S04	E21	.360	12357	26.1	19	-N		C	1212	.52				E
MCMA	24	1210	1240		S06	E19	.333	12357	25.9	30	-N		P	1225	.62	.60			E
CATA	24	1210	1250	1220	S06	E20	.349	12357	26.0	40	1B		C	1220	2.02	2.16		(224)	
CAPS	24	1216	1245		S05	E17	.297	12357	25.8	29	-N	3	V	1222	1.00	1.10		(175)	CU
CANR	24	1220	1245	1221	S05	E23	.394	12357	26.2	25	-F		V	1221	1.80	2.00			
TEHR	24	1221E	1222D	1221U	S05	E25	.425	12357	26.4	1D	-N	3	C		1.00				F
MCMA	24	1238E	1345D		S03	E10	.175	12357	25.3	67D	-F		P	1240	.52	.50			EH
GRP48701	24	1650	1714	1700	S06	E18	.317	12357	26.1	24	--F				.50				2 2 2 4
HUAN	24	1647	1704	1700	S06	E16	.285	12357	25.9	17	-F	1	C	1700	.36	.38			E
PALE	24	1653	1723D	1659	S06	E19	.333	12357	26.1	30D	-N	3	C		.63				DE
PALE	24	1718	1725D	1719	S05	E22	.378	12357	26.4	7D	-N	3	V		.21				F
GRP48702	24	1817	1908	1822	N15	W46	.748	12352	21.3	51	-N				.94				4 4 3 4
CANR	24	1816	1855	1823	N15	W46	.748	12352	21.3	39	-N		V		1.20	1.70			
MCMA	24	1818	1850D	1819	N15	W47	.759	12352	21.2	32D	-N			1819	.72	1.10			
MCMA	24	1818	1850D	1836	N15	W47	.759	12352	21.2	32D	-N		C	1836	1.03	1.60			EKL
HUAN	24	1819E	1927		N13	W46	.742	12352	21.3	68D	-N	1	C						CE
PALE	24	1823E	1903	1823U	N16	W46	.752	12352	21.3	40D	-N	3	C		.91				DE
GRP48703	24	1907	1917	1909	N09	W41	.672	12352	21.7	10	--F				.78				2 2 2 3
PALE	24	1906	1913D	1909	N09	W41	.672	12352	21.7	7D	-N	3	C		.36				F
BOUL	24	1908	1917D	1908D	N08	W40	.657	12352	21.8	9D	-F		V	1908	1.20	1.60			
705 PALE	24	2001	2006		S05	E21	.362	12357	26.4	5	--F	2	C						DE 3
4 STATIONS REPORTING GROUP 48706. 1 STATIONS OBSERVING AND NOT REPORTING.																			
GRP48706	24	2342	0021	0001	S05	E05	.105	12357	25.4	39	--N				.78				3 3 3 5
MITK	24	2340	0030	2355	S04	E04	.081	12357	25.3	50	-N		C	2355	.62	.60			D
PALE	24	2344	0024D	0004	S04	E04	.081	12357	25.3	40D	-N	3	V		.93				UDE
CRON	25	0002	0008	0004	S06	E06	.130	12357	25.5	6	-F		V	0004	.80				
48706	24	2344	0030	2349	S04	E04	.081	12357	25.3	46	*-F				.44				2 2 2 5
MANI	24	2344	0030	2352U	S04	E04	.081	12357	25.3	46	-N	2		2352	.62	.62			FE
PALE	24	2344	0024D	2345	S04	E04	.081	12357	25.3	40D	-F	3	V		.26				UDE
GRP48707	25	0152	0246	0206	N14	W52	.807	12352	21.2	54	1N				2.37				5 4 4 6
MITK	25	0152	0252	0211	N13	W53	.814	12352	21.1	60	1N		C	0211	1.65	2.90			E
TEHR	25	0153E	0251	0203	N14	W50	.787	12352	21.3	58D	-N	2	V		1.32				F
MANI	25	0200E	0238D	0200U	N16	W53	.821	12352	21.1	38D	1N	2		0200	1.55	2.62			FU
KODA	25	0208E	0236	0210	N14	W50	.787	12352	21.3	28D	1B		C	0215	4.94	4.94	2.00		E
PALE	25	0218E	0303	0219U	N14	W53	.817	12352	21.1	45D	1N	2	V		1.65				F

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION — MIN.	IMPORTANCE	OBS. COND.	OBS. TYPE	MEASUREMENTS					REMARKS
	DATE 1973 MAY	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY					TIME — UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	
GRP48709	25	0507	0516	0508	S00	E04	.075	12357	25.5	9	--N				.57				3 3 3 5
MANI	25	0507	0517	0509	S01	E04	.070	12357	25.5	10	-N	2		0509	.83	.82			FH
MITK	25	0507	0520	0507	N01	E05	.098	12357	25.6	13	-N		C	0507	.72	.70			D
TEHR	25	0508	0512	0509	S01	E02	.036	12357	25.4	4	-N	3	V		.17				DE
GRP48711	25	0655	0717	0701	N15	W53	.819	12352	21.3	22	-N				.78				8 8 8 11
MITK	25	0655	0717	0700	N16	W54	.830	12352	21.2	22	-N		C	0700	.83	1.40			EH
MANI	25	0655	0720	0700	N16	W56	.848	12352	21.1	25	-N	2		0700	.93	1.63			UE
CATA	25	0655	0705D	0700	N16	W52	.812	12352	21.4	10D	-B		P	0700	1.16	1.98		(245)	
CAPS	25	0655	0722		N16	W52	.812	12352	21.4	27	-B	3	V	0658	.80	1.40		(277)	C
MEUD	25	0655	0715	0700	N15	W51	.799	12352	21.5	20	-N		C	0700	.52	.90			E
ZURI	25	0656	0716	0704	N14	W51	.797	12352	21.5	20	-F		C	0704	.85	1.40			
CRON	25	0656	0715	0701	N16	W53	.821	12352	21.3	19	-N		V	0701	.80				
TEHR	25	0656E	0717	0700	N14	W51	.797	12352	21.5	19D	-N	3	V		.33				F
GRP48718	25	1620	1644	1622	N14	W59	.870	12352	21.3	24	-N				.45				4 4 3 5
BOUL	25	1619E	1628E	1622E	N14	W59	.870	12352	21.3	3D	-F		V	1622		1.90			
MEUD	25	1620	1633D	1622	N15	W56	.846	12352	21.5	13D	-N		C	1622	.41	.80			E
HUAN	25	1621	1626	1622	N14	W58	.862	12352	21.3	5	-N	1	C	1622	.31	.61			
PALE	25	1622E	1644	1623U	N14	W62	.894	12352	21.0	22D	-N	2	V		.62				DE
HUAN	25	1631	1643	1637	N13	W60	.877	12352	21.2	12	-F	1	C						
GRP48720	25	1742	1808	1749	S02	W06	.105	12357	25.3	26	--F				.41				4 4 3 5
BOUL	25	1742E	1756D	1746	S03	W07	.124	12357	25.2	14D	-F		V	1746		1.60			
HUAN	25	1743E	1805		S02	W06	.105	12357	25.3	22D	-F	1	P	1749	.41	.42			CE
PALE	25	1749E	1810	1750U	S01	W06	.105	12357	25.3	21D	-N	3	C		.55				F
RAMY	25	1751E	1753D	1751U	S01	W06	.105	12357	25.3	2D	-F	2	C		.28				DE
721 PALE	25	1814	1826	1817	N17	W55	.841	12352	21.6	12	--F	3	C		.45				DE 3
	25	1944	2013	NO FLARE PATROL															
	25	2031	2123	NO FLARE PATROL															
	25	2136	2145	NO FLARE PATROL															
723 TEHR	25	0453	0504	0455	S02	W09	.157	12357	25.5	11	--N	4	C		.21				DE 4
GRP48724	26	0737	0755	0741	S01	W13	.225	12357	25.3	18	--N				.26				3 3 3 9
MANI	26	0734	0808D	0742	S01	W13	.225	12357	25.3	34D	-F	2		0742	.31	.32			F
TEHR	26	0739	0746	0740	S01	W12	.208	12357	25.4	7	-F	3	C		.17				F
CATA	26	0740E	0750	0740	S01	W14	.242	12357	25.3	10D	-B		P	0740	.29	.29		(289)	
GRP48731	26	1829	1847	1837	N12	E36	.618	12360	29.5	18	--F				.57				2 2 2 3
HUAN	26	1829	1845	1838U	N12	E35	.605	12360	29.4	16	-F	2	C	1838	.31	.39			E
PALE	26	1834E	1848	1836	N12	E36	.618	12360	29.5	14D	-N	3	V		.83				DE
	26	2145	0015	NO FLARE PATROL															
732 MITK	27	0057	0102	0058	S03	W29	.485	12357	24.9	5	--N		C	0058	.52	.60			D 1
GRP48735	27	0724	0734	0727	S04	W26	.440	12357	25.4	10	--N				.61				3 3 3 7
TEHR	27	0724	0734	0725	S05	W25	.426	12357	25.4	10	-N	3	C		.25				DE
ATHN	27	0724	0734	0726	S03	W26	.439	12357	25.4	10	-N	3	C		.50				DE
ABST	27	0728E	0731D	0729	S04	W26	.440	12357	25.4	3D	-F		P	0729	1.08	1.20			D
GRP48737	27	0939	0947	0941	S00	W31	.515	12357	25.1	8	--N				.38				4 4 4 9
ATHN	27	0936E	0943D	0938	S00	W33	.545	12357	24.9	7D	-N	3	C		.33				DE
CATA	27	0940	0950	0940	N01	W32	.531	12357	25.0	10	-B		C	0940	.29	.34		(214)	
CAPS	27	0940	0946		S02	W28	.469	12357	25.3	6	-N	3	V	0941	.30	.30		(160)	C
ARCE	27	0940	0945	0941	S00	W32	.530	12357	25.0	5	-N		C	0941	.26	.30			
GRP48738	27	1203	1217	1207	S01	W34	.559	12357	25.0	14	--N				.41				7 7 6 8
CAPS	27	1200	1216		S02	W31	.515	12357	25.2	16	-B	3	V	1205	.50	.60		(212)	
TEHR	27	1202	1218	1207	S02	W32	.530	12357	25.1	16	-N	3	C		.26				DE
RAMY	27	1203	1220	1206	S01	W32	.530	12357	25.1	17	-N	4	C		.46				DE
MEUD	27	1203	1213	1205	S02	W34	.559	12357	25.0	10	-N		C	1205	.62	.70			E
CATA	27	1205	1220	1210	N01	W34	.560	12357	25.0	15	-N		C	1210	.29	.35		(208)	
ATHN	27	1208E	1214	1208U	S00	W37	.602	12357	24.7	6D	-N	2	V		.33				DE
WEND	27	1208E	1220D		S00	W35	.574	12357	24.9	12D	-N								

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS					REMARKS
	DATE 1973 MAY	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MOUNTH PLAGE REGION	CMP DAY	MIN.		COND.	TYPE	TIME — UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hg	MAX. INT. %	
GRP48742	27	1321	1352	1324	S00	W33	.545	12357	25.1	31	--N				.50				9 9 8 10
HUAN	27	1310	1318	1312	S01	W34	.559	12357	25.0	8	-F	1	C						D
TEHR	27	1317	13280	1325	S02	W31	.515	12357	25.2	110	-N	3	C		.15				DE
RAMY	27	1318	1345	1325	S01	W32	.530	12357	25.2	27	-N	4	C		.65				DE H
CATA	27	1320	1400D	1325	N01	W32	.531	12357	25.2	400	-N		P	1325	.58	.68		(186)	
BOUL	27	1320	1410	1323	N01	W33	.546	12357	25.1	50	-N		V	1323	.70	.80			
ATHN	27	1321E	1335	1322	S02	W35	.573	12357	24.9	140	-N	2	V		.66				DE
WEND	27	1321E	1345D		N01	W36	.589	12357	24.9	240	-N								
HUAN	27	1321	1353U		S00	W33	.545	12357	25.1	320	-F	1	C	1330	.31	.37			E
MEUD	27	1322	1345	1325	S02	W33	.545	12357	25.1	23	-F		C	1325	.41	.50			D
CAPS	27	1325	1408		N01	W32	.531	12357	25.2	35	-N	3	V	1328	.50	.60		(182)	
GRP48743	27	1417	1427	1420	S01	W35	.573	12357	25.0	10	--N				.34				3 3 2 7
HUAN	27	1417	1421	1419	S01	W35	.573	12357	25.0	4	-F	1	C	1419	.21	.25			D
WEND	27	1417E	1430D		S00	W37	.602	12357	24.8	130	-N								
RAMY	27	1418	1429	1420	S01	W33	.545	12357	25.1	11	-N	4	C		.46				DE
GRP48745	27	1606	1618	1608	S01	W37	.602	12357	24.9	12	-N				.86				6 6 5 7
LOCA	27	1602E	1622	1605	N01	W35	.575	12357	25.0	200	-N		V	1605	1.26	1.50			
BOUL	27	1606	1624	1608	S01	W36	.588	12357	25.0	18	-B		V	1608	.80	.96			
HUAN	27	1607	1615	1608	S01	W36	.588	12357	25.0	8	-N	2	C	1608	.62	.77			
MEUD	27	1608	1615	1609	S02	W36	.588	12357	25.0	7	-N		C	1609	.62	.70			E
ATHN	27	1608E	1616D	1610	S00	W41	.656	12357	24.6	60	-N	2	V		.99				F
WEND	27	1609E	1618D		S01	W36	.588	12357	25.0	90	-N								
748 MANI	27	2238E	2249	2242	S11	E48	.750	12363	31.5	110	--N	1		2242	.62	.92			2
GRP48755	28	1242	1257	1246	S00	W47	.731	12357	25.0	15	-N				.71				7 7 7 9
BOUL	28	1239	1259	1246	S02	W48	.743	12357	24.9	20	-N		V	1250	.60	.90			
ATHN	28	1240E	1246D	1242	S00	W47	.731	12357	25.0	60	-N	2	V		.83				DE
RAMY	28	1241	1259	1246	S01	W46	.719	12357	25.1	18	-N	4	C		.74				DE
CANR	28	1241	1300	1247	S02	W46	.719	12357	25.1	19	-N		V	1247	1.20	1.70			
MCMA	28	1242E	1255D	1247	N01	W46	.720	12357	25.1	130	-N		C	1247	.41	.60			E
CATA	28	1245	1255	1245	N02	W47	.733	12357	25.0	10	-B		C	1245	.87	1.27		(251)	
HUAN	28	1245	1253	1247	S00	W47	.731	12357	25.0	8	-N	1	C	1247	.31	.45			
GRP48757	28	1602	1616	1607	S05	W36	.590	12357	26.0	14	--F				.76				3 3 2 7
WEND	28	1558E	1612D		S04	W37	.603	12357	25.9	140	-N								
BOUL	28	1602E	1614D	1604	S06	W35	.577	12357	26.0	120	-F		V	1610	.47	.50			
UPIC	28	1606	1616	1609	S04	W35	.575	12357	26.0	10	-F		P	1609	1.05				
GRP48760	28	1736	1755	1741	S00	W49	.755	12357	25.1	19	-B				1.13				8 8 7 8
RAMY	28	1735	1804D	1739	S01	W49	.755	12357	25.1	290	-B	3	V		1.32				Z F
MCMA	28	1736E	1746D		N02	W48	.744	12357	25.1	100	-B		C	1742	.41	.60			E
HUAN	28	1736	1751	1741	S00	W48	.743	12357	25.1	15	-N	1	C	1741	.41	.62			
BOUL	28	1737E	1759	1742	S01	W49	.755	12357	25.1	220	-N		V	1745	1.30	2.00			
UPIC	28	1739E	1747	1742	N02	W50	.767	12357	25.0	80	1B		P	1742	2.10				
PALE	28	1741E	1757	1741U	N01	W49	.755	12357	25.1	160	-B	4	C		.99				F
CANR	28	1741E	1748	1743	S00	W49	.755	12357	25.1	70	-B		V	1743	1.40	2.00			
WEND	28	1743E	1756D		S01	W50	.766	12357	25.0	130	-N								
GRP48761	28	1859	1918	1904	S06	W36	.591	12357	26.1	19	--F				.55				3 3 3 5
HUAN	28	1857	1917		S06	W36	.591	12357	26.1	20	-F	1	C	1901	.31	.38			D
PALE	28	1858	1910	1858	S05	W36	.590	12357	26.1	12	-N	3	C		.55				
BOUL	28	1901	1927	1904	S07	W35	.579	12357	26.2	26	-F		V	1910	.80	.96			
GRP48762	29	0431	0445	0433	S01	W54	.809	12357	25.1	14	--N				.39				2 2 2 5
TEHR	29	0431	0445	0433	S02	W55	.819	12357	25.1	14	-N	3	C		.28				F
ATHN	29	0432E	0444	0432U	S00	W53	.799	12357	25.2	120	-N	3	V		.50				DE
GRP48763	29	0527	0621	0543	N18	W20	.460	12364	27.7	54	--F				1.28				3 2 2 9
ABST	29	0518	0650	0544	N17	W21	.461	12364	27.6	92	-F		C	0544	1.62	1.80		76	E
MANI	29	0535	0551	0541	N18	W19	.449	12364	27.8	16	-F	2		0541	.93	1.03			
TEHR	29	0647	0655	0650	N17	W19	.439	12364	27.9	8	-F	4	C		.15				DE
GRP48766	29	1311	1326	1313	N18	W25	.517	12364	27.7	15	--N				.41				3 3 3 6
ATHN	29	1311E	1316D	1311U	N18	W23	.494	12364	27.8	50	-N	2	V		.66				F
RAMY	29	1311	1330	1312	N18	W26	.528	12364	27.6	19	-N	3	C		.37				DE
HUAN	29	1312	1322	1315	N17	W25	.506	12364	27.7	10	-F	2	C	1315	.21	.24			D
GRP48770	29	1921	1924	1922	N01	W63	.891	12357	25.1	3	--F				.29				2 2 2 4
HUAN	29	1921	1924	1922	S00	W63	.891	12357	25.1	3	-F	1	C	1922	.21	.45			D
PALE	29	1921	1924	1921	N02	W63	.892	12357	25.1	3	-N	3	C		.36				
GRP48772	30	0614	0631	0615	S06	W68	.927	12357	25.2	17	--F				.36				3 3 3 7
TEHR	30	0610	0632	0614	S06	W70	.940	12357	25.0	22	-F	4	C		.36				F
ATHN	30	0615	0628	0616	S05	W68	.927	12357	25.2	13	-F	2	C		.33				DE
CAPS	30	0618	0632		S06	W67	.921	12357	25.2	14	-F		V	0620	.40	.80			C

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS					REMARKS
	DATE MAY	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	
GRP48779	30	1815	1820	1817	N15	W43	.712	12364	27.5	5	--F				.41				2 2 2 4
RAMY	30	1814	1820	1817	N14	W42	.697	12364	27.6	6	-F	3	C		.46				DE H
PALE	30	1815	1818D	1817	N16	W43	.716	12364	27.5	3D	-N	3	C		.36				DE
GRP48780	31	0105	0113	0108	N17	W47	.762	12364	27.5	8	--N				.30				2 2 2 2
MANI	31	0105	0114	0108	N16	W46	.748	12364	27.6	9	-N	2		0108	.41	.62			
PALE	31	0107E	0112	0107U	N18	W47	.765	12364	27.5	5D	-N	3	C		.19				

"Remarks":

A = Eruptive prominence, base at >90°.
B = Probably the end of a more important flare.
C = Invisible 10 minutes before.
D = Brilliant point.
E = Two or more brilliant points.
F = Several eruptive centers.
G = No spots visible in the neighborhood.
H = Flare with high velocity dark surge.
I = Very extensive active region.
J = Plage with flare shows marked intensity variations.
K = Several intensity maxima.
L = Filaments show effects of sudden activation.
M = White-light flare.
N = Continuous spectrum shows effects of polarization.
O = Observations have been made in the calcium II lines H or K.
P = Flare shows helium D_3 in emission.
Q = Flare shows the Balmer continuum in emission.
R = Marked asymmetry in Hα line.
S = Brightening follows disappearance of filament (same position).
T = Region active all day.
U = Close and somewhat parallel bright filaments (‖ or Y shape).
V = Occurrence of an explosive phase.
W = Great increase in area after time of maximum intensity.
X = Unusually wide Hα emission.
Y = Onset of a system of loop-type prominences.
Z = Major sunspot umbra covered by flare.

Note:
A line of explanation has been added before each flare event having more than one maxima. The total number of stations reporting some part of the event is given. The number of stations observing at the time of the principal maximum but not reporting the event is given in the second statement. Care should be exercised in utilizing the numbers in the remarks column. The first number is the number of stations reporting the individual maximum, and not the total number of stations reporting some part of the flare event. The last number is the number of stations reporting at the time of the individual maximum and not necessarily the total number of stations observing during the flare event. GRP numbers may appear several times in order to indicate secondary maxima. An asterisk beside an importance indicates a secondary maximum. The word "GRP" has also been omitted to aid in pointing to this condition.
When it is impossible to determine the time of Maximum Phase from the individual reports the time of Area Measurements is used. This time appears in parentheses. For Flares reported by only one station the last 3 digits of the group number appear to the left of the station code.

In the importance column "--" signifies the subflare has been confirmed by the NOAA grouping program but is not included in the I.A.U. Quarterly Bulletin on Solar Activity. These subflares are also not included in the Flare Index below.

DAILY FLARE INDICES

Date	Flare Index	HR OBS	Date	Flare Index	HR OBS	Date	Flare Index	HR OBS
730501	30.26	23.9	730511	0.00	21.0	730520	76.81	23.1
730502	20.46	24.0	730512	0.00	23.9	730521	21.15	24.0
730503	286.38	24.0	730513	0.00	23.4	730522	29.98	24.0
730504	38.64	24.0	730514	0.51	24.0	730523	5.35	24.0
730505	160.01	24.0	730515	14.37	23.7	730524	35.84	24.0
730506	41.30	22.4	730516	10.20	24.0	730525	33.92	22.5
730507	32.14	24.0	730517	39.16	23.4	730526	0.00	21.5
730509	17.42	23.9	730518	30.98	24.0	730527	3.98	24.0
730510	2.37	23.7	730519	413.37	24.0	730528	9.40	24.0

When no Flare Index is given, it is 0 for that day.

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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IM-POR-TANCE	OBS.		MEASUREMENTS					REMARKS
	DATE MAY	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	
398 MITK	01	0305E	0350	0323	N13	W90	1.000	12322	24.4	45D	1B		C	0323	1.13				E 5
399 KODA	01	0424E	0910	0429	N13	W90	1.000	12322	24.4	286D	2B		C	0424			4.44		I 5
402 ISTA	01	0921	0945		S14	E51	.779	12332	5.2	24	-N								E 9
403 UPIC	01	1115	1131	1122	N15	W90	1.000	12322	24.7	16	1N		P	1122	.42				9
GRP48404	01	1152	1223	(1153)	N15	W90	1.000	12322	24.7	31	1B				.61				2 2 2 8
CATA	01	1150	1210	1150	N14	W90	1.000	12322	24.7	20	1N		C	1150	.58			(182)	
UPIC	01	1153	1235		N15	W90	1.000	12322	24.7	42	1B		P	1155	.63				
405 ZURI	01	1224	1244	1236	S14	E76	.968	12336	7.2	20	-F		C	1236	.62	2.40			8
413 KODA	02	0245	0306	0250	S12	W42	.673	12323	29.0	21	-N		V	0250			1.96		D 3
417 CATA	02	0855	0915	0900	S10	W51	.776	12323	28.5	20	-N		C	0900	.29	.46		(170)	11
419 TEHR	02	0940	0956	0946	S08	W53	.797	12323	28.4	16	-F	2	C		.37				DE 10
GRP48426	02	1810	1816	1812	S13	E60	.865	12336	7.3	6	-F				.52				2 2 1 5
MCMA	02	1808E	18150		S13	E58	.847	12336	7.1	7D	-N		P	1808	.52	1.00			E
BOUL	02	1811	1816	1812	S12	E62	.881	12336	7.4	5	-F		V	1812		1.26			
431 MANI	02	2222	2230	2225	S10	W58	.846	12323	28.6	8	-N	2		2225	.52	.90			3
432 MANI	02	2255	2301	2256	S09	W59	.855	12323	28.5	6	-N	2		2256	.83	1.48			3
434 MANI	03	0009E	0026	0010	S10	W59	.855	12323	28.6	17D	-F	2		0010	.41	.74			3
438 MANI	03	0145E	0152	0147	S10	W60	.864	12323	28.6	7D	-F	2		0147	.21	.24			3
441 MANI	03	0322E	03270	0322U	S14	E50	.769	12336	6.9	5D	-N	2		0322	.62	.97			4
442 MANI	03	0327	03310	0328	S10	W60	.864	12323	28.6	4D	-N	2		0328	.31	.35			4
GRP48446	03	0644	0702	(0651)	S16	E52	.793	12336	7.2	18	-N				.58				2 2 2 7
CRON	03	0642E	0700		S17	E54	.814	12336	7.3	18D	-N		V		.65				
CAPS	03	0645	0703		S15	E50	.771	12336	7.0	18	-N	2	V	0651	.50	.90			
GRP48447	03	0723	0729	0728	S15	E47	.738	12336	6.8	6	-F				.63				2 2 2 8
CRON	03	0723E	0728		S16	E48	.751	12336	6.9	5D	-F		V		.75				
TEHR	03	0727E	07300	0728U	S13	E46	.723	12336	6.8	3D	-N	2	V		.50				F
GRP48448	03	0729	0745	0743	S13	E49	.757	12336	7.0	16	-F				.74				2 2 2 8
CANR	03	0729E	0745		S13	E47	.735	12336	6.8	16D	-F		V		1.30	1.80			
TEHR	03	0743E	07440	0743U	S12	E50	.767	12336	7.1	1D	-N	2	V		.17				DE
450 ARCE	03	0839	0848D	0840	S10	W63	.889	12323	28.6	9D	-B		C	0840	.12	.30			10
451 CATA	03	1145	1150	1145	S13	E47	.735	12336	7.0	5	-N		C	1145	.29	.42		(186)	7
452 HUAN	03	1206E	12100		S12	E57	.838	12336	7.8	4D	-F	1	P	1208	.10	.19			D 6
454 PALE	03	1719	1738	1721	S17	E80	.983	12338	9.7	19	-N	3	V		.62				DE 3
GRP48461	03	2340	2359	2344	S03	W75	.965	12323	28.4	19	-F				.52				2 2 1 5
MANI	03	2339E	2359	2346	S03	W76	.970	12323	28.3	20D	-F	2		2346	.52	1.22			F
BOUL	03	2340	2353D	2342	S02	W73	.956	12323	28.5	13D	-N		V	2342		.60			
462 MANI	04	0106E	0121D	0108	S14	E45	.713	12336	7.4	15D	-F	2		0108	.72	1.02			F 3
463 MANI	04	0107	0121D	0120U	S06	W81	.987	12323	28.0	14D	-N	2		0120	.83	2.17			3
466 MANI	04	0406	04200	0409	S10	W71	.943	12323	28.8	14D	-F	2		0409	.62	1.34			3
GRP48470	04	1126	1145	1137	S12	E39	.635	12336	7.4	19	-F				.73				2 2 2 11
ZURI	04	1122	1144	1136	S11	E37	.607	12336	7.2	22	-F		C	1136	.63	.80			
RAMY	04	1130	1145	1137	S13	E41	.663	12336	7.6	15	-F	3	C		.83				DE
471 TEHR	04	1203	1212	1205	S13	E79	.980	12338	10.4	9	-N	2	C		.09				DE 9
472 TEHR	04	1210	1220	1212	S13	E35	.584	12336	7.1	10	-N	3	C		.19				DE 9
489 ARCE	05	0820E	0855D		S15	E21	.399	12336	6.9	35D	-N		C	0830	.41	.50			10
508 TEHR	05	0939E	0958	0942	S10	E16	.294	12336	7.6	11D	-N	3	V		.25				F 6

SOLAR FLARES
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OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IM-POR-TANCE	OBS.		MEASUREMENTS					REMARKS
	DATE 1973 MAY	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH hα	MAX. INT. %	
GRP48511	06	1136	1151	1139	S13	E10	.235	12336	7.2	15	-F				.75				2 2 2 6
TEHR	06	1136	1148	1138	S11	E10	.213	12336	7.2	12	-F	3	V		.50				F
ATHN	06	1137E	1154	1139	S14	E10	.247	12336	7.2	17D	-N	3	V		.99				F
517 HUAN	06	1754	1800D	1755	S15	E15	.319	12336	7.9	6D	-F	1	P	1755					3
522 MANI	07	0035E	0043D	0035U	S13	E00	.164	12336	7.0	8D	-F	2		0035	.62	.62			F 3
524 PALE	07	0202	0213D	0204	S16	W07	.245	12336	6.6	11D	-F	2	V		.41				F 4
526 MANI	07	0324E	0328D	0326	S16	W05	.263	12336	6.8	4D	-F	2		0326	.52	.54			F 7
GRP48529	07	0637	0655	0647	S13	E00	.164	12336	7.3	18	-B				1.44				2 2 2 6
MANI	07	0637	0649D	0643	S13	E01	.165	12336	7.4	12D	-B	2		0643	1.55	1.58			E
ATHN	07	0650E	0655D	0650U	S13	W01	.165	12336	7.2	5D	-N	1	C		1.32				UDE
GRP48534	07	1152	1214	1155	S13	W10	.236	12336	6.7	22	-F				.24				2 2 2 6
ATHN	07	1151E	1212	1157	S12	W12	.251	12336	6.6	21D	-F	3	V		.33				DE
RAMY	07	1152	1215	1153	S13	W08	.213	12336	6.9	23	-N	2	V		.15				DE
535 RAMY	07	1315E	1326	1315U	S13	E00	.164	12336	7.6	11D	-F	4	V		.83				F 6
536 HUAN	07	1507	1520		S13	W14	.288	12336	6.6	13	-F	1	C	1512					4
543 PALE	08	0327	0358	0329	S14	W15	.312	12336	7.0	31	-F	1	C		.27				F 6
545 ATHN	08	0502E	0532	0520U	S13	W21	.388	12336	6.6	30D	-N	2	V		.33				DE 3
GRP48547	08	0537	0546	0540	S12	W21	.382	12336	6.7	9	-N				.66				1 1 1 3
ATHN	08	0537E	0544	0540	S11	W22	.392	12336	6.6	7D	-N	3	V		.66				F
ATHN	08	0537	0546	0540	S13	W20	.374	12336	6.7	9	-N	1	C		.66				F
550 RAMY	08	1134	1145D	1137	S13	W23	.417	12336	6.8	11D	-F	5	V		.28				DE 5
552 CAPS	08	1505	1532		S15	W15	.321	12336	7.5	27	-N	3	V	1519	.80	.90		(164)	C 7
558 RAMY	09	1133E	1141	1135U	S12	W22	.398	12336	7.8	8D	-N	5	V		.31				DE 5
GRP48561	10	0019	0105	0045	S14	W38	.629	12336	7.2	46	-F				.41				2 2 1 5
MANI	10	0019	0105D	0049	S14	W36	.603	12336	7.3	46D	-F	2		0049	.41	.52			F
MANI	10	0019	0105D	0026	S14	W36	.603	12336	7.3	46D	-F	2		0026	.83	1.03			F
BOUL	10	0031E	0053D	0041	S14	W39	.642	12336	7.1	22D	-F		V	0041		.95			
562 MANI	10	0550E	0619D	0554	S14	W45	.715	12336	6.9	29D	-F	2		0554	.62	.87			3
563 MANI	10	0550E	0619D	0608	S14	W45	.715	12336	6.9	29D	-F	2		0608	.41	.58			4
564 MANI	10	0646E	0707D	0650U	S14	W45	.715	12336	6.9	21D	-F	2		0650	.52	.73			5
565 MONT	10	0927	0930	0928	S15	W46	.729	12336	6.9	3	-F		C	0928	.21				8
568 CANR	10	1729	1737	1730	S13	W47	.737	12336	7.2	8	-N		V		.30	.52			4
570 ATHN	11	1536E	1612	1537	S07	W57	.838	12336	7.4	36D	-F	2	V		.33				DE 5
571 ATHN	11	1634	1727	1645	S09	W41	.658	12336	8.6	53	-N	0	C		.74				DE 5
573 TEHR	12	0416E	0423	0418	S12	W63	.891	12336	7.5	7D	-F	3	V		.12				F 7
574 TEHR	12	0433	0448	0436	S13	W65	.906	12336	7.3	15	-F	3	C		.55				F 9
575 RAMY	12	1517E	1518D	1517U	S00	E04	.087	12345	12.9	1D	-F	3	C		.28				DE 7
577 RAMY	14	1434	1443	1436	N11	E90	1.000	12352	21.4	9	-N	3	C						DE 6
580 MANI	15	0408E	0414D	0409	S09	E37	.606	12349	17.9	6D	-F	2		0409	.31	.39			5
581 ABST	15	0851E	0855D	0851	S09	E33	.551	12349	17.8	4D	1N		P	0851	1.80	2.10			E 8
582 ABST	15	0851E	0855D	0851	N06	E86	.998	12352	21.8	4D	1N		P	0851	1.08				D 8
583 MONT	15	0940	0943	0940	N04	E87	.999	12352	21.9	3	-F		C	0940	.10				7
584 MONT	15	1023	1028	1024	N07	E87	.999	12352	22.0	5	-N		C	1024	.52				5

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OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS					REMARKS
					APPROX.		CENTRAL	HOMATH PLAGE	CMP										
	DATE 1973 MAY	START	END	MAX. PHASE	LAT.	MER. DIST.	DISTANCE	REGION	DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hg	MAX. INT. %	
585 MONT	15	1056	1057	1056	S09	E30	.507	12349	17.7	1	-F		C	1056	.10				6
586 RAMY	15	1154	1201	1158U	S09	E31	.522	12349	17.8	7	-F	2	C		.37				DE 5
588 HUAN	15	1404	1409	1405	S06	E30	.501	12349	17.8	5	-F	1	C	1405					6
590 TEHR	16	0958	1014	1004	N09	W10	.263	12358	15.7	16	-F	4	V		.19				F 8
591 BOUL	16	1906	1913	1908	S10	E18	.332	12349	18.1	7	-F		V	1908		.83			3
592 KODA	17	0411	0415	0411	N08	E61	.881	12352	21.7	4	-B		V	0411			1.56		E 3
593 MANI	17	0526	0536	0528	N05	E55	.824	12352	21.4	10	-F	2		0528	.62	1.05			5
595 ISTA	17	0850	0910		N07	E56	.836	12352	21.6	20	1F								E 5
GRP48602	18	0501	0515	0505	N10	E42	.690	12352	21.4	14	-F				.28				2 2 2 5
TEHR	18	0458	0515	0503	N10	E41	.678	12352	21.3	17	-N	3	V		.15				DE
MANI	18	0503	0515	0506	N09	E43	.699	12352	21.4	12	-F	2		0506	.41	.58			F
606 UPIC	18	1153E	1157U		N11	E36	.619	12352	21.2	4D	-F		P	1153	.42				8
607 ARCE	18	1200E	1215D		N13	E38	.652	12352	21.4	15D	-N		C	1200	.23	.30			9
608 ARCE	18	1218E	1225D	1215	N05	E37	.611	12352	21.3	15D	-F		C	1215	.41	.50			10
615 MANI	18	2301	2307	2303	N08	E37	.620	12352	21.7	6	-F	1		2303	.31	.39			4
618 UPIC	19	0923E	0923D		N11	E27	.499	12352	21.4		-F		P	0923	.63				8
620 BOUL	19	1410	1426	1415	S00	E80	.985	12357	25.6	16	1N		V			2.60			7
626 PALE	20	0328	0334	0331	N11	E18	.378	12352	21.5	6	-F	2	C		.36				F 5
627 TEHR	20	0348	0354	0348	N11	E18	.378	12352	21.5	6	-N	3	C		.17				DE 4
GRP48632	20	0947	1002	0948	N09	E13	.293	12352	21.4	15	-N				.38				2 2 2 5
TEHR	20	0947E	0958	0948U	N10	E12	.293	12352	21.3	11D	-N	4	V		.25				DE
CAPS	20	0947	1005		N07	E13	.273	12352	21.4	13	-N	3	V	0948	.50	.50			
633 TEHR	20	1041	1101	1043	N10	E11	.281	12352	21.3	20	-N	3	V		.17				DE 6
647 MANI	21	0447	0506	0449	N10	E02	.211	12352	21.3	19	-F	2		0449	.21	.21			4
GRP48648	21	0605	0630	0611	N09	E02	.194	12352	21.4	25	-F				1.35				2 1 1 8
ABST	21	0605	0630D	0611	N09	E02	.194	12352	21.4	25D	-F		P	0611	1.35	1.40			D
UPIC	21	0627E	0627D		N14	E04	.284	12352	21.6		-F		P	0627	.21				D
GRP48650	21	0700	0715	0702	N12	E00	.242	12352	21.3	15	-F				.42				2 2 2 6
MANI	21	0657	0721D	0702	N12	E00	.242	12352	21.3	24D	-F	2		0702	.21	.21			F
UPIC	21	0703	0708		N11	E00	.225	12352	21.3	5	-F		P	0704	.63				
653 MONT	21	0944	1011	0959	S14	W49	.764	12349	17.7	27	-N		C	0959	.21				E 7
656 UPIC	21	1551E	1615	1602U	N12	W04	.251	12352	21.4	24D	-F		P	1602	.42				E 7
658 HUAN	21	1707	1713	1710	N14	W81	.990	12358	15.6	6	-F	1	C	1710	.26				T 4
664 MANI	21	2217E	2231D	2217U	N11	W08	.263	12352	21.3	14D	-F	1		2217	.83	.86			F 3
669 MONT	22	0925	0929	0928	S11	W61	.878	12349	17.8	4	-N		C	0928	.10				E 9
GRP48671	22	1051	1129	1101	N17	W89	1.000	12358	15.8	38	-F				.34				2 2 2 7
MONT	22	1041	1129	1101	N18	W88	1.000	12358	15.8	48	-N		C	1101	.10				D
CATA	22	1100	1110D	1100	N16	W90	1.000	12358	15.7	10D	1F		P	1100	.58			(120)	T
673 UPIC	22	1429	1447U		N16	W90	1.000	12358	15.9	18D	1N		P	1432	.42				8
678 TEHR	23	0306	0329	0317	N10	W24	.448	12352	21.3	23	-N	3	C		.27				F 6
681 CATA	23	1210	1250	1235	S14	W80	.984	12349	17.5	40	-F		C	1235	.29			(145)	5
682 BOUL	23	1346E	1358D	1350	S13	W79	.981	12349	17.6	12D	-F		V	1350		.40			7
683 BOUL	23	1459E	1504D	1500U	S14	W80	.984	12349	17.6	5D	-F		V	1500		1.30			7
685 HUAN	23	1624	1627	1624	S07	E32	.535	12357	26.1	3	-F	1	C	1624	.31	.37			E 6

SOLAR FLARES
Unconfirmed
MAY 1973

OBSERVATORY	OBSERVED UT				LOCATION					DURATION — MIN.	IMPORTANCE	OBS.		MEASUREMENTS					REMARKS
	DATE 1973 MAY	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY			COND.	TYPE	TIME — UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hg	MAX. INT. %	
689 MITK	23	2352	0050	0020	S15	W90	1.000	12349	17.2	58	1N		C	0020	.83				D 5
691 MITK	24	0128E	0208D	0146	S15	W90	1.000	12349	17.3	40D	1N		C	0146	1.03				OH 5
692 PALE	24	0533	0538	0535	N10	W25	.461	12352	22.4	5	-N	3	C		.36				F 7
GRP48693	24	0620	0646	0626	N15	W39	.669	12352	21.3	26	-F				1.18				2 2 2 9
ABST	24	0617E	0652D	0626	N15	W39	.669	12352	21.3	35D	1F		P	0626	1.53	2.10			FKUW
MANI	24	0623	0640	0625	N14	W39	.665	12352	21.3	17	-F	2		0625	.83	1.10			F
697 CATA	24	0930	0955	0945	S14	W90	1.000	12349	17.6	25	1F		C	0945	.58			(126)	10
698 KHAR	24	1055E	1114D		S13	W90	1.000	12349	17.7	19D	1F		V	1056			3.20		D 8
700 PALE	24	1649	1720D	1649	N10	W46	.734	12352	21.3	31D	-F	2	C		.72				DE 4
704 PALE	24	1953E	2000	1954U	S03	E07	.124	12357	25.4	7D	-N	3	V		.15				DE 3
708 PALE	25	0239	0247	0240	S03	E02	.043	12357	25.3	8	-N	3	V		.15				DE 6
710 MANI	25	0624E	0637D	0625U	N13	W56	.843	12352	21.1	13D	-F	1		0625	.31	.53			7
712 MANI	25	0742	0803	0747	S00	E00	.027	12357	25.3	21	-F	2		0747	.52	.52			F 10
713 MONT	25	1030	1036	1033	N02	E11	.200	12359	26.3	6	-N		C	1033	.10				E 7
714 MONT	25	1154	1239D	1209	S04	W01	.046	12357	25.4	45D	-N		C	1209	1.13				E 8
GRP48715	25	1430	1449	1431	S06	W03	.094	12357	25.4	19	-F				.32				2 2 2 7
RAMY	25	1427	1448	1431	S05	W01	.063	12357	25.5	21	-F	3	C		.23				DE
CAPS	25	1433	1450		S07	W04	.118	12357	25.3	17	-F	3	V	1437	.40	.40		(155)	
716 RAMY	25	1522	1535	1529U	S01	W05	.088	12357	25.3	13	-F	3	C		.19				DE 7
717 HUAN	25	1607	1615	1609	S03	W03	.058	12357	25.4	8	-F	2	C	1609	.26	.26			D 5
719 PALE	25	1714E	1720	1715U	S04	W04	.082	12357	25.4	6D	-F	4	V		.15				DE 3
722 MANI	25	0014	0033	0020	N09	W60	.872	12352	21.5	19	-F	2		0020	.62	1.13			3
GRP48725	25	0837	0846	0839	S02	W14	.242	12357	25.3	9	-F				.21				2 2 2 9
MONT	25	0837	0846	0839	S01	W13	.225	12357	25.4	9	-F		C	0839	.10				
ARCE	25	0840E	0845D		S02	W15	.259	12357	25.2	5D	-N		P	0840	.32	.30			
726 MANI	25	0846	0908D	0901	N11	W63	.898	12352	21.6	22D	-N	2		0901	1.03	2.00			F 10
GRP48727	25	1034	1042	1036	S01	W12	.208	12357	25.5	8	-F				.14				2 2 2 9
TEHR	26	1033E	1041	1035	S01	W12	.208	12357	25.5	8D	-F	4	V		.17				DE
MONT	25	1034	1043	1037	S01	W11	.191	12357	25.6	9	-F		C	1037	.10				
728 TEHR	25	1234	1243	1236	S02	W14	.242	12357	25.5	9	-N	4	V		.25				DE 7
729 TEHR	25	1359	1407	1401	S02	W14	.242	12357	25.5	8	-N	4	V		.17				DE 8
730 PALE	25	1621E	1631	1622U	N17	W72	.958	12352	21.3	10D	-F	1	C		.55				DE 7
733 MANI	27	0337E	0344D	0339	S05	W13	.233	12357	26.2	7D	-F	2		0339	.41	.42			FH 5
734 ABST	27	0530E	0600D	0532	S07	W22	.385	12357	25.6	30D	-F		P	0532	.99	1.10			D 7
736 ATHN	27	0735E	0755	0735U	S06	W15	.270	12357	26.2	20D	-F	3	V		.99				F 7
739 RAMY	27	1223E	1230		N15	W80	.987	12352	21.5	7D	-N	4	V						DE 9
740 HUAN	27	1239	1249	1240	S01	W34	.559	12357	25.0	10	-F	1	C	1240	.21	.25			D 8
741 HUAN	27	1301	1307	1304	S01	W34	.559	12357	25.0	6	-F	1	C	1304	.21	.25			D 8
GRP48744	27	1520	1530	1526	S06	W21	.366	12357	26.1	10	-F				.36				2 2 2 6
CAPS	27	1515	1530		S05	W19	.331	12357	26.2	15	-F	3	V	1519	.40	.40		(155)	C
HUAN	27	1524	1529	1526	S06	W22	.382	12357	26.0	5	-F	1	C	1526	.31	.33			
746 PALE	27	1644	1652	1646	S01	W34	.559	12357	25.1	8	-F	3	C		.36				F H 6
747 PALE	27	1644	1709	1649	S04	W21	.361	12357	26.1	25	-F	3	C		.55				F 6

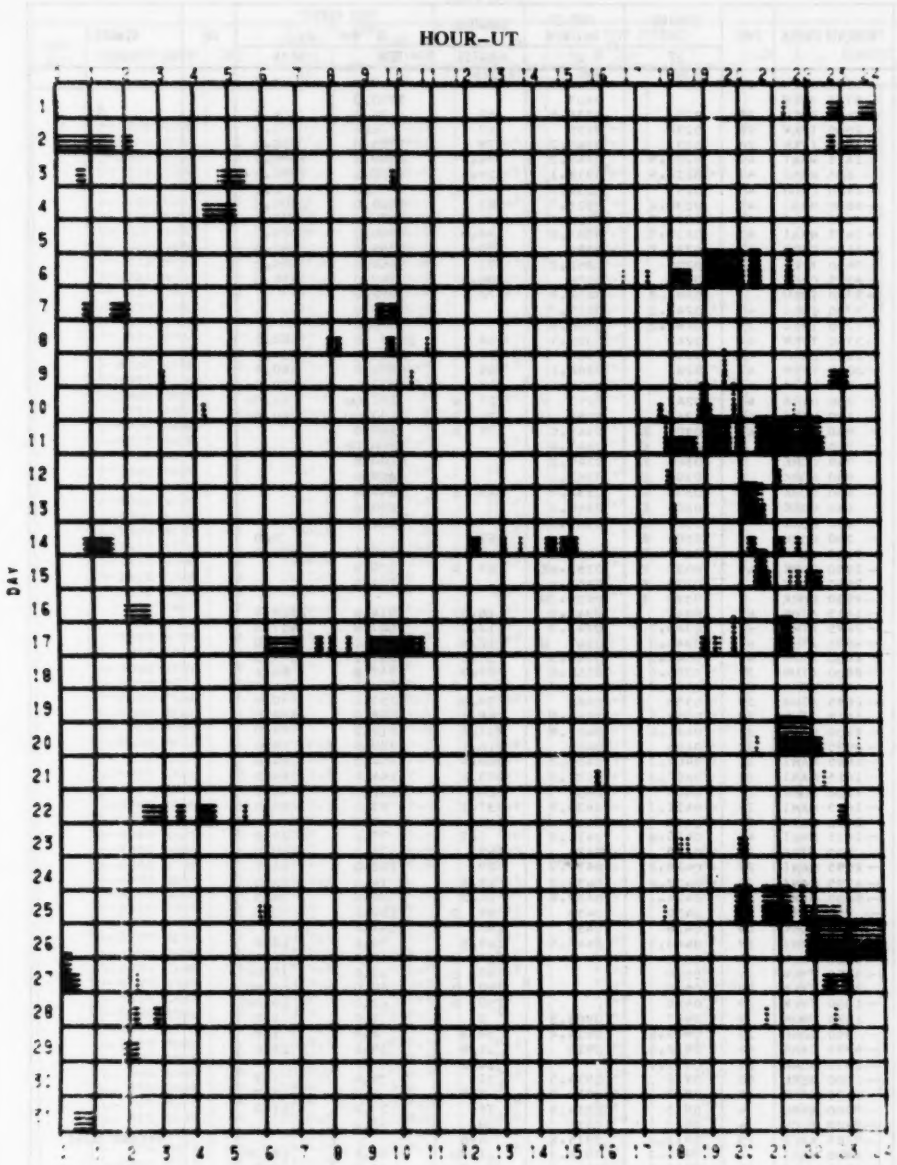
SOLAR FLARES
Unconfirmed
MAY 1973

OBSERV-ATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS					REMARKS
	DATE MAY	START	END	MAX. PHASE	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	MCMATH PLAGE REGION	CMP DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Sq. Deg.	CORR. AREA Sq. Deg.	MAX. WIDTH Hα	MAX. INT. %	
749 MANI	28	0033	0103	0049	S01	W38	.616	12357	25.2	30	-F	2		0049	.41	.52			3
750 MANI	28	0056	0106	0059	N12	E18	.378	12360	29.4	10	-N	2		0059	.72	.77			4
751 KODA	28	0310	0318	0310	S02	W41	.656	12357	25.1	8	-N		V	0310			1.68		D 6
752 MANI	28	0459	0511	0504	S01	W41	.656	12357	25.1	12	-F	2		0504	.31	.41			5
753 ABST	28	0634	0658	0639	N17	W87	.333	12364	27.7	16	-F		C	0639	.81	.90			D 8
754 RAMY	28	1115	1129	1120	S01	W45	.707	12357	25.1	14	-F	4	C		.46				DE 7
756 RAMY	28	1247	1308	1254	S06	W32	.534	12357	26.1	21	-F	4	C		.65				DE 8
758 UPIC	28	1631	1648	1634	N01	W47	.732	12357	25.2	17	-F		P	1634	.21				8
759 RAMY	28	1712	1730D	1717	S01	W48	.743	12357	25.1	18D	-F	3	V		.46				DE 8
764 RAMY	29	1131	1204	1138	N17	W23	.485	12364	27.8	33	-F	3	C		.65				DE 6
765 RAMY	29	1220	1235D	1230	N18	W24	.505	12364	27.7	15D	-F	3	V		.31				DE 6
767 RAMY	29	1517	1548	1522	N17	W27	.532	12364	27.6	31	-N	4	C		.65				DE 6
768 RAMY	29	1735	1750	1738	N17	W27	.532	12364	27.7	15	-F	4	V		.28				DE 5
769 HUAN	29	1801	1802D		N16	W28	.537	12364	27.7	1D	-F	1	P	1802					5
771 PALE	30	0435E	0446D	0437	N14	E53	.815	12374	3.2	11D	-F	1	V		.31				DE 6
773 ATHN	30	0656	0705	0657	N16	W41	.693	12364	27.2	9	-N	3	C		.50				DE H 7
774 MANI	30	0814	0823	0816	N16	W38	.658	12364	27.5	9	-N	2		0816	.41	.55			7
775 ARCE	30	0910E	0915D		N16	W40	.682	12364	27.4	5D	-N		C	0915	.32	.40			9
776 RAMY	30	1115E	1120	1115U	N16	W40	.682	12364	27.5	5D	-F	4	V		.52				DE 6
777 RAMY	30	1156	1221	1157	N17	W38	.663	12364	27.6	25	-F	3	C		.37				DE 6
778 PALE	30	1657	1708	1658	N17	W40	.686	12364	27.7	11	-F	3	C		.27				DE 4
781 ATHN	31	0352E	0404	0352U	N15	W68	.934	12367	26.1	12D	-N	2	V		.66				F 5
GRP48782	31	1324	1334	1326	N21	W81	.990	12367	25.5	10	-F				.26				2 2 2 8
ATHN	31	1323	1333	1326	N21	W82	.992	12367	25.4	10	-F	3	C		.33				DE
RAMY	31	1324	1335D	1325	N21	W80	.988	12367	25.6	11D	-F	3	C		.19				DE
RAMY	31	1326E	1336D	1326U	N21	W80	.988	12367	25.6	10D	-F	4	V		.19				DE

INTERVALS OF NO FLARE PATROL OBSERVATION

FOR PRECEDING SOLAR FLARE TABLE

MAY 1973



Observatories included in total patrol:

Abastumani	Capri-F (German)	Gran Canaria	Kiev	Meudon	Tachkent
Arcetri	Capri-S (Swedish)	Herstmonceux	Kodaikanal	Mitaka	Tehran
Athenes	Carnarvon	Huancayo	Locarno	Monte Mario	Upice
Boulder	Catania	Istanboul	Manila	Palehua	Voroshilov
Bucharest	Culgoora	Kharkov	McMath-Hulbert	Ramey	Wendelstein
					Zürich

Times of no flare patrol are shown by the shaded area for each day divided into times of no cinematographic patrol (bottom half of day) and times of neither visual nor cinematographic patrol (top half of day).

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

MAY 1973

MAY 1973	FREQUENCY STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} MEAN	INT	REMARKS
1	3750 TYKW	28	0152	0234.7	50	7.0	3.0		
	3750 TYKW			0307		2900.0			
	9400 TYKW	28	0202	0234.5	37	14.0	4.0		
	2000 TYKW	28	0230	0235	12	2.0	1.0		
	1000 TYKW	28	0231	0249.2	179	7700.0	950.0		
	1415 MANI	47	0232.9	0349.2	94.4	8300.0	1690.0		
	606 MANI	47	0232.9	0318.1	124.6	9700.0	1390.0		
	1420 CRON	45	0233	0234.5	3	8.0	2.0		
	8800 MANI	47	0238.8	0321.7	83	5000.0	2800.0		
	4995 MANI	47	0238.8	0322.8	85.2	4800.0	2600.0		
	2695 MANI	47	0238.8	0307.8	88.5	4500.0	1780.0		
	1420 CRON	47	0238.5	0350	303.5	5208.0	321.0		
	9400 TYKW	47	0239	0252.2	171	3400.0	900.0		
	4995 CRON	47	0240	0306	206.5	2447.0	568.0		
	9750 IRKU		0242.2	0252.3	172	1955.0			
	9750 IRKU	45	0242.2	0319.7		1780.0			
	9750 IRKU	29	0242.2	0326.8		1630.0			
	3750 TYKW	47	0242	0322.5	168	2600 .0	800.0		
	2695 CRON	47	0242	0308	199	3914.0	314.0		
	2000 TYKW	47	0242	0308.1	168	5500.0	650.0		
	500 HIRA	45	0242	0319.6	93	3000.0	330.0		
	200 HIRA	45	0242	0257 U	127 D	150.0U	45.0U		
	100 HIRA	45	0242	0250 U	124 D	230.0U	40.0U		
	950 GORK	47	0305 E	0343.5	175 D	240.0			
	950 GORK		0305 E	0347.8		3600.0D			
	950 GORK		0305 E	0349.2		6600.0			
	950 GORK		0305 E	0353.1		4850.0			
	650 GORK	47	0305 E	0332.7	283 E	1648.0			
	650 GORK		0305 E	0349.1		1820.0			
	650 GORK		0305 E	0353.5		2130.0			
	100 GORK	44	0306 E		153		5.0		
	9100 GORK	47	0309 E	0322.1	186 E	2890.0	590.0		
	2950 GORK	45	0330 E	0352.6E	153 U	120.0			
	2950 GORK		0330 E	0353.4		711.0			
	2950 GORK		0330 E	0409.2U					
	1415 ATHN	47	0342	0348.9	16.5	7518.0	2318.0		
	2695 ATHN	47	0343.3	0347.7	12.7	1687.0	457.0		
	4995 ATHN	47	0344.3	0347 U	12.4	439.0	119.0		
	8800 ATHN	47	0345.2	0348.5	11.4	667.0	277.0		
	8800 ATHN	29	0356.6	0356.6	29.9	347.0	80.6		
	4995 ATHN	29	0356.7	0356.7	30 U	154.0	44.1U		
	2695 ATHN	29	0356	0356	30.3	227.0	70.5		
	1415 ATHN	29	0358.5	0358.5	48.1	1008.0	338.0		
	8800 MANI	30	0401.8	0401.8	213.3	310.0	73.0		
	4995 MANI	30	0404	0404	211.1	350.0	78.0		
	2695 MANI	30	0407.3	0407.3	204.4	350.0	100.0		
	1415 MANI	30	0407.3	0407.3	203.4	184.0	84.0		
	9100 GORK	29	0409	0409	126	180.0	56.0		
	1415 MANI	22	0411.7	0439.9	37.1	83.0	30.0		
	2950 GORK	29	0412	0412 U	108	9.2			
	1415 MANI	40	0415.6	0416.2	1.7	70.0	23.0		
	500 HIRA	29	0415	0426	165	75.0	20.0		
	2695 MANI	22	0418.6	0439.9	29	102.0	31.5		
	4995 MANI	22	0422.6	0439.9	28.8	74.0	13.0		
	8800 MANI	22	0424.1	0439.9	25.2	82.0	18.3		
	950 GORK	29	0430	0430	85 D	150.0	75.0		
	650 GORK	29	0436	0436	192	130.0			
	606 MANI	29	0443.5	0443.5	165.5	56.0	12.8		
	9400 TYKW	29	0530		150 D	40.0	18.0U		
	3750 TYKW	29	0530		150 D	42.0	20.0U		
	2000 TYKW	29	0530		150 D	60.0	14.0U		
	1000 TYKW	29	0530		150 D	62.0	12.0U		
	1420 CRON	3	0907	0908.5	2	3.0	1.0		
	950 GORK	20	0909.6	0914.4	14.3	6.5	1.8		
	4995 CANR	45	0912.5	0914	11.5	39.0	13.0		
	2950 GORK	21	0912.9		10.3				
	1500 BERL	40	0912	0914.5	11	5.4	1.2		
	1420 CANR	45	0912	0914.5	3.5	4.0	2.0		
	9500 BERL	4	0913	0914.5	15	27.0	11.0		
	9400 SLOU	4	0913	0915	10	37.0			
	9285 ARCE	3	0913.5	0915.8	4.6				RECORD DIST
	8800 MANI	4	0913.3	0916.3	11.9U	62.0	18.3U		
	4995 CRON	3	0913.5	0915.5	4.5	18.0	6.0		
	4995 MANI	4	0913.3	0914.8	11.7U	59.0	13.4U		
	3000 BERL	4	0913	0914.5	12	21.0	6.0		
	2830 ARCE	3	0913.7	0915.4	3.3				RECORD DIST
	2695 MANI	4	0913.2	0914.8	11.8U	16.3	8.2U		
	2699 CRON	3	0913	0914	4	10.0	4.0		
	2695 ATHN	3	0913.8	0914.8	10.5	18.3	5.6		
	1415 MANI	2	0913.1	0914.5	5.6U	6.1	2.0U		
	1415 ATHN	1	0913.8	0914.7	3.2	2.9	.9		
	606 MANI	2	0913.5	0917.1	7.5U	4.8	1.8U		
	9100 GORK	20	0914.3	0914.7	.6	28.5	8.8		
	8800 ATHN	3	0914	0915.6	10	48.0	15.4		
	4995 ATHN	3	0914 U	0914.8	13 U	44.1	14.7U		
	2950 GORK	3	0914	0914.8	3.6	19.0			
	2695 CANR	45	0914.5	0916	8.5	19.0	6.0		
	1420 CRON	3	0914.5	0915	1.5	4.0	1.0		
	650 GORK	1	0914.1	0914.4	.7	2.9	1.5		
	200 GORK	48	0914	0914.3	11				

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MAY 1973	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	REMARKS
1	200	GORK		0914	0915.1		20.0			
	2950	GORK	1	0917.7	0918.2	1.4	5.7			
	2830	ARCE	29	0917		24 U				
	210	IZMI	6	0917.3	0917.4	.3	70.0	35.0		
	9285	ARCE	29	0918.1		41				
	100	GORK	41	0918	0918.1	14.2	100.0			
	100	GORK		0918	0922.5		50.0			
	100	GORK		0918	0931.5		250.0			
	260	ONDR	45	0920	0931.5	70	25.0			
	113	POTS	41	0922.2	0931.4	9.3	175.0	2.0		
	221	ABST	1	0929.2	0929.5	.5	19.0			
	237	TRST	41	0931.1	0931.2	.3	96.0			
	930	BORD	5	1042	1042.8	1	52.0	2.0		
	808	ONDR	5	1042.5	1042.5	.5	65.0			
	536	ONDR	5	1043	1043	.5	105.0			
	9500	BERL	3	1109.5	1111.5	8.5	17.0	4.5		
	8800	ATHN	3	1109.7	1111.5	4.7	16.2	4.0		
	4995	ATHN	1	1109.7	1111.3	4 U	2.1	.7U		
	15400	SGMR	3	1111.2	1111.6	1.6	10.4	4.2		
	9285	ARCE	3	1111.2	1111.5	4				
	8800	SGMR	3	1111.1	1111.5	6	18.3	7.2		
	4995	SGMR	1	1111.4	1111.5	.8	1.5	.7		
	9500	BERL	22	1145	1158	31	14.0			
	3000	BERL	20	1149	1157.9	28	3.6			
	4995	SGMR	20	1150.2	1157	16.7	7.6	3.8		
	8800	SGMR	20	1152.5	1157.3	12.2	10.6	5.3		
	8800	ATHN	3	1152.2	1156.6	11.2	12.1	4.0		
	1500	BERL	45	1156.5	1157.5	2.3	5.4	1.2		
	1415	ATHN	1	1156	1157.8	5.1	7.2	2.4		
	1415	SGMR	2	1156.4	1157.9	3.5	6.3	3.1		
	1420	CANR	8	1157.5	1158	1	6.0	2.0		
	260	ONDR	45	1244	1245	2.5	25.0			
	536	ONDR	5	1306.5	1306.5	.5	85.0			
	260	ONDR	45	1307	1309	4.5	230.0D			
	4995	ATHN	3	1315.7	1319.2	11.8	52.4	17.1		
	237	TRST	42	1316.6	1319.3	3.1	2500.0			
	3000	BERL	3	1317	1319	11	38.0	9.0		
	2800	OTTA	28	1317	1318	2	2.0	1.0		
	2695	CANR	3	1317.5	1318.5	1.5	3.0	1.0		
	1500	BERL	3	1317	1319.5	14	25.0	4.2		
	930	BORD	45	1317	1319.4	8	27.0	3.0		
	9400	HUAN	1	1318.8	1319.3	1.6	20.4	5.1		
	7000	SAOP	1	1318.7	1319.4	2.5	20.5	10.2		
	4995	CANR	8	1318.5	1319	2.5	23.0	9.0		
	2695	BOUL	8	1318	1318.5	2	12.0	4.0		
	10700	PENN	3	1319.1	1319.4	2.4	10.1	1.7		
	9500	BERL	1	1319	1319.3	2	14.0	3.1		
	9285	ARCE	1	1319	1319.4	1.6				
	8800	SGMR	3	1319	1319.4	5.3	20.1	8.0		
	8800	ATHN	3	1319	1319.3	2	12.1	4.0		
	4995	BOUL	8	1319.5	1320	2.5	94.0	28.0		
	4995	SGMR	3	1319	1319.5	3.6	28.9	11.8		
	2830	ARCE	3	1319	1319.4	2.5				
	2800	OTTA	3	1319	1319.3	3.5	49.0	13.0		
	2700	PENN	3	1319.2	1319.4	5.7	61.0	11.2		
	2695	SGMR	3	1319.1	1319.4	6.3	40.0	16.0		
	2695	CANR	8	1319.5	1320.5	10.5	43.0	16.0		
	2695	ATHN	3	1319.1	1319.3	2 U	33.1	10.1U		
	1420	CANR	8	1319	1319.5	6.5	22.0	8.0		
	1420	BOUL	8	1319	1319.5	4	22.0	9.0		
	1415	ATHN	3	1319.1	1319.3	6.6	16.8	5.4		
	1415	SGMR	4	1319.3	1319.5	8.3	25.0	10.0		
	808	ONDR	45	1319	1319.5	5	70.0			
	606	SGMR	3	1319.2	1319.3	3.3	28.0	10.2		
	536	ONDR	45	1319	1319	3	55.0			
	510	POTS	45	1319 U	1319.2	.5	85.0	20.0		
	410	SGMR	48	1319.2	1319.4	2.8	800.0	320.0		
	245	SGMR	48	1319.2	1319.3	3.4	720.0	290.0		
	234	POTS	45	1319.1	1319.3	.6	1300.0	80.0		
	2800	OTTA	29	1322.5		21	4.0	1.5		
	9400	HUAN	22	1331.9	1454.8	190.9	11.9	6.3		
	10700	PENN	1	1345.8	1347	3.6	5.1	1.4		
	9285	ARCE	1	1345.8	1347	8				
	9500	BERL	1	1346	1347.2	2.2	7.6			
	8800	SGMR	3	1346	1346.9	3.8	17.1	6.4		
	8800	ATHN	3	1346.1	1346.9	4	12.1	4.0		
	2800	OTTA	21	1355	1515	315	6.4	3.2		
	2830	ARCE	22	1406.3	1420.2	29				RECORD DIST
	10700	PENN	40	1407.4		5.4				
	9500	BERL	2	1407.5	1408	6	15.0	4.5		
	9400	HUAN	2	1407.6	1408.2	3.7	15.3	7.0		
	9285	ARCE	28	1407.7	1408.2	10.2				
	8800	SGMR	3	1407.5	1408	4.5	11.2	4.3		
	8800	ATHN	3	1407.7	1408.2	6.4	18.2	6.1		
	2695	BOUL	45	1408	1419.5	6	10.0	3.0		
	10700	PENN	45	1414.2	1420.2	11	104.0	29.9		
	1500	BERL	41	1415	1420.4	23	5.4			
	19000	SLOU		U	1420	U	U			
	15400	SGMR	46	1417.9	1419	13.1	85.0	36.0		
	15400	SGMR	46		1420.1		91.0			

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MAY 1973	FREQUENCY STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} MEAN	INT	REMARKS
1	9500 BERL	46	1417	1420	11	81.0	23.0		
	9400 SLOU	45	1417	1419.4	7	104.0			
	4995 ATHN	3	1417.2	1420.1	8 U	20.3	6.4U		
	1415 ATHN	1	1417.2	1419.2	9.4	6.0	1.8		
	930 BORD	40	1417	1421.3	5	180.0	2.0		
	9400 HUAN	45	1418.2	1418.9	7.6	78.1	31.7		
	9400 HUAN		1418.2	1420.2		91.7			
	9400 HUAN		1418.2	1423.6		39.1			
	9285 ARCE	45	1418	1420.2	7.2				
	9285 ARCE		1418	1419	1.8				
	8800 SGMR	46	1418.2	1419	13.3	89.0	38.1		
	8800 SGMR	46		1420.2		97.0			
	8800 ATHN	3	1418.4	1420.1	6.8	60.6	20.2		
	7000 SAOP	46	1418.4	1419.1	7.4	46.4	26.2		
	4995 SGMR	46	1418.2	1419.1	10.2	22.8	10.2		
	4995 SGMR	46		1420.2		26.2			
	4995 CANR	45	1418	1423.5	8	22.0	5.0		
	3000 BERL	46	1418.5	1420	7.5	11.0	4.2		
	2800 OTTA	4	1418.5	1420.1	7.5	13.8	4.6		
	2700 PENN	3	1418.4	1420.2	8.8	23.2	4.6		
	2695 SGMR	46	1418.3	1419.2	12.4	13.0	4.4		
	2695 SGMR	46		1420.2		13.4			
	1420 CANR	45	1418.5	1419.5	5.5	4.0	2.0		
	1415 SGMR	2	1418.7	1421.3	7.3	8.0	4.0		
	960 PENN	41	1418.8	1421.2	11.2	60.1			
	9285 ARCE		1419.8	1420.2	1.1				
	4995 BOUL	45	1419	1420.5	7	31.0	8.0		
	2695 CANR	45	1419.5	1421	7.5	14.0	5.0		
	2695 ATHN	3	1419	1420.1	11.3	17.3	5.8		
	1420 BOUL	45	1419	1421.5	7	5.0	1.0		
	9285 ARCE		1420.9	1423.6	4.3				
	10700 PENN	29	1425.2	1425.2	58.6	15.6	8.1		
	9285 ARCE	29	1425.2		31 D				
	7000 SAOP	29	1425.8		5.9				
	930 BORD	45	1427	1428	2	18.0	2.0		
	260 ONDR	45	1427	1428	2.5	100.0			
	4995 CANR	3	1439	1442	4	7.0	2.0		
	2800 OTTA	1	1440	1442	4	1.2	0.6		
	260 ONDR	45	1500	1504	20	45.0			
	7000 SAOP	20	1557.2		19.4	7.7			
	4995 CANR	3	1559.5	1602	12.5	11.0	3.0		
	2695 BOUL	3	1559.5	1601.5	9.5	6.0	2.0		
	8800 SGMR	1	1600.6	1602.3	3.9	5.9	2.9		
	8800 ATHN	1	1600.3	1602.4	4	6.1	2.0		
	4995 SGMR	1	1600.4	1603	9.9	7.6	3.8		
	4995 BOUL	3	1600.5	1604	8.5	15.0	5.0		
	2800 OTTA	20	1600	1604	30	5.2	1.8		
	2695 SGMR	1	1600.7	1603.6	9.9	4.0	2.0		
	2695 ATHN	3	1600.3	1603.3	6.3	11.5	2.9		
	2695 CANR	21	1601	1605	17	7.0	2.0		
	1415 SGMR	2	1601	1602.4	7	6.5	3.2		
	1420 CANR	45	1602	1602.5	1	7.0	2.0		
	1420 BOUL	45	1602	1603	3.5	6.0	2.0		
	29 UPIC	45	1603	1604	2				
	10700 PENN	1	1723.9	1725.7	5.8	5.5	2.3		
	1420 CANR	45	1807	1807	5	15.0	3.0		
	9400 HUAN	22	1820.9	1830.6	66.9	27.2	7.4		
	960 PENN	1	1821.2	1823.2	2.8	3.0	0.5		
	8800 SGMR	23	1823.8	1830.8	36.3	20.2	4.8		
	2800 OTTA	46	1823	1830.8	13	14.2	7.1		
	2695 SGMR	22	1823.4	1830.6	37	12.4	3.0		
	1420 BOUL	8	1823	1823.5	1	5.0	2.0		
	1415 SGMR	1	1823	1823.1	.8	6.6	2.0		
	4995 SGMR	20	1824.6	1830.7	31.8	17.9	4.1		
	2700 PENN	3	1824.4	1830.7	11.4	24.1	12.5		
	2695 BOUL	45	1824.5	1830	25.5	11.0	3.0		
	10700 PENN	20	1825.6	1830.8	34.9	13.7	3.2		
	7000 SAOP	42	1825.2		25.3	20.5			
	7000 SAOP	22	1825.2		11.2	20.5			
	2695 CANR	45	1825	1832	13	13.0	4.0		
	1420 BOUL	45	1825.5	1827	11	16.0	2.0		
	1415 SGMR	23	1825.5	1829.8	20.8	2.0	.6		
	4995 BOUL	45	1826	1831.5	11	31.0	10.0		
	606 SGMR	1	1826.2	1829.4	5.6	8.4	2.1		
	410 SGMR	6	1826.9	1829.3	4.5	145.0	12.0		
	1415 SGMR	4	1827	1827.1	4.6	19.0	4.6		
	960 PENN	45	1827	1827.6	5	10.6	3.6		
	4995 CANR	3	1828.5	1830.5	3	12.0	4.0		
	2700 PENN	29	1835.8	1835.8	63.6	10.0	5.0		
	7000 SAOP	22	1836.2		14.1	18.0			
	2800 OTTA	30	1836		20	4.0	2.0		
	15400 SGMR	3	1839.8	1840.6	2.4	20.2	5.0		
	9400 HUAN	2	1839.5	1840.3	4.2	23.8	8.7		
	8800 SGMR	3	1839.7	1840.6	3.2	19.8	4.0		
	10700 PENN	3	1840.2	1840.6	2.4	22.4	7.5		
	2800 OTTA	8	1846.1	1846.1		8.0			
	1420 CANR	8	1903	1904	2	6.0	2.0		
	1420 BOUL	8	1913.5	1915	5.5	14.0	4.0		
	1415 SGMR	3	1913.2	1915.3	6	15.2	3.0		
	7000 SAOP	8	1914.6	1915	.9	12.8	6.4		
	4995 BOUL	8	1914.5	1915.5	2.5	53.0	18.0		

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MAY 1973	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	REMARKS
1	2800	OTTA	3	1914.5	1915	3.5	18.2	3.6		
	2695	SGMR	3	1914.9	1915.1	1.4	15.4	5.4		
	2695	BOUL	8	1914	1914.5	1.5	6.0	2.0		
	960	PENN		1914.3	1917.2	8.7	7.6	1.7		
	410	SGMR	48	1914.6	1915.1	2.8	2420.0	600.0		
	245	SGMR	48	1914.7	1914.9	3.1	7010.0	1750.0		
	10700	PENN	1	1915	1915.2	1.2	5.7	1.9		
	8800	SGMR	3	1915	1915.1	1	11.0	5.1		
	4995	SGMR	1	1915	1915.2	2	9.1	3.0		
	2700	PENN	3	1915	1915.1	.6	24.1	10.7		
	2800	OTTA	32	1930	1945	40	-2.0	-1.0		
	1420	BOUL	3	1957	2002	6.5	3.0	1.0		
	18	BOUL	6	2001	2003	2			1	
	18	MCMA	6	2003	2006	4			1	
	245	SGMR	43	2016	2122.8	203 D	97.0			
	9400	HUAN	28	2024.3	2032.4	8.1	34.0	9.3		
	2695	SGMR	46	2025.9	2034.1	28.1U	100.0	20.0U		
	2695	SGMR	46		2038.6		96.0			
	2800	OTTA	28	2026		5	2.0	1.6		
	10700	PENN	45	2027.5	2038.8	27.8	318.0	80.2		
	2700	PENN	45	2027.3	2038.8	26.2	153.0	45.1		
	606	SGMR	46	2027	2033.9	60.2	320.0	60.0		
	960	PENN	45	2028	2033.7	13.3	249.0	30.4		
	15400	SGMR	46	2030.5	2035.9	46.4	270.0	80.0		
	15400	SGMR	46		2038.7		283.0			
	4995	SGMR	46	2030.6	2036	23.4U	69.0	30.0U		
	4995	SGMR	46		2039		121.0			
	2695	BOUL	45	2030.5	2050	24.5	47.0	14.0		
	1420	BOUL	45	2030	2034.5	23	86.0	19.0		
	1415	SGMR	46	2030 U	2033.6	22 U	102.0	20.0U		
	1415	SGMR	46		2039.3		63.0			
	8800	SGMR	46	2031	2035.9	23 U	200.0	65.0U		
	8800	SGMR	46		2038.7		280.0			
	4995	BOUL	45	2031.5	2039.5	25	207.0	42.0		
	2800	OTTA	46	2031	2034.2	26	96.0	30.0		
	2800	OTTA		2031	2034.2	7.2	96.0			
	410	SGMR	6	2031.8	2041.6	11.7	48.4	10.0		
	35000	SGMR	4	2032.7	2035.6	14.8	234.0	75.0		
	9400	HUAN	46	2032.4	2035.6	19.1	222.4	108.8		
	9400	HUAN		2032.4	2038.6		281.9			
	9400	HUAN		2032.4	2049.9		125.7			
	2800	OTTA		2038.2	2039	10.3	95.0			
	960	PENN	29	2041.3	2041.3	122	7.3	2.2		
	2800	OTTA		2048.5	2050.8	8.5	58.0			
	9400	HUAN	29	2051.5	2051.5	13.7	74.7	36.0		
	2700	PENN	29	2053.5	2053.5	114	16.1	9.3		
	10700	PENN	29	2055.3	2055.3	106	31.3	15.6		
	18	BOUL	6	2056	2058	4			1	
	2800	OTTA	30	2057		108	8.4	4.2		
	100	HIRA	45	2057.2	2057.4	1	180.0	80.0		
	18	MCMA	6	2059	2100	3			2	
	4995	BOUL	45	2105.5	2106	2.5	16.0	6.0		
	2800	OTTA	21	2105	2114	65	4.6	2.6		
	2800	OTTA	1	2105.3	2105.5	1	5.2	1.8		
	1420	BOUL	45	2105.5	2106	2.5	8.0	3.0		
	1415	SGMR	45	2105.5	2105.7	13.3	10.0	2.0		
	1415	SGMR	45		2107.4		10.1			
	960	PENN		2105.4	2105.7	2.7	17.5	1.7		
	606	SGMR	46		2105.5		270.0			
	500	HIRA	5	2105.4	2105.7	.5	190.0	100.0		
	410	SGMR	48	2105.3	2105.8	3.9	525.0	120.0		
	245	SGMR	48	2105.5	2107	3.7	1060.0	210.0		
	208	VORO	42	2105	2107	4	300.0			
	200	HIRA	45	2105.2	2105.5	3	130.0D	50.0D		
	100	HIRA	45	2105.5	2105.8	3	240.0	100.0		
	18	BOUL	6	2105	2109	5			2	
	18	MCMA	41	2105	2110	6			2	
	2800	OTTA	1	2106.9	2107.1	1	4.0	2.0		
	4995	BOUL	8	2110	2111.5	2	19.0	5.0		
	2800	OTTA	1	2110	2111	2	7.2	2.8		
	2700	PENN	3	2110.7	2111.2	1.3	10.3	3.8		
	4995	BOUL	3	2113.5	2114	2.5	8.0	3.0		
	200	HIRA	45	2122.8	2123	.5	130.0	50.0		
	100	HIRA	5	2122.5	2123	1	200.0	70.0		
	18	MCMA	6	2123	2124	2			1	
	100	HIRA	5	2205	2205.2	.8	130.0	50.0		
	960	PENN	1	2207.9	2208.9	2.9	7.3	2.0		
	1420	BOUL	3	2208.5	2209	1.5	1.0			
	1415	SGMR	1	2208.2	2208.9	2.3	1.3	.4		
	1000	TYKW	3	2208	2208.8	2	12.0	4.0		
	606	SGMR	3	2208.1	2208.8	2.5	13.8	6.5		
	410	SGMR	6	2208.4	2208.6	2.2	6.7	2.3		
	245	SGMR	6	2208.2	2208.5	1.6	4.9	1.6		
	100	HIRA	45	2326.5	2326.7	1	60.0	20.0		
2	4995	BOUL	8	0031.5	0032.5	1.5	19.0	7.0		
	100	HIRA	45	0031.5	0033.3	3	250.0	70.0		
	9400	TYKW	3	0032.5	0033	2	35.0	6.0		
	8800	MANI	3	0032.8	0033.1	1.2	42.0	16.8		
	4995	CRON	8	0032	0033	1.5	14.0	5.0		

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MAY 1973	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} MEAN	INT	REMARKS
2	4995	MANI	3	0032.8	0033.1	1.4	19.1	8.0		
	3750	TYKW	3	0032	0033	3	7.0	2.0		
	2695	MANI	1	0032.8	0033.1	1.4	9.6	4.8		
	2695	CRON	8	0032.5	0033	1	10.0	3.0		
	2695	BOUL	8	0032.5	0033.5	1.5	11.0	4.0		
	2695	PENT	1	0032.8	0033.1	2	7.6	2.6		
	2000	TYKW	1	0032.7	0033.2	1.3	10.0	3.0		
	1420	BOUL	8	0032.5	0033.5	1.5	14.0	6.0		
	1415	MANI	3	0032.8	0033.2	1.4	16.6	5.2		
	1000	TYKW	45	0032	0033.1	2	23.0	6.0		
	606	MANI	40	0032.1	0033.1	5.6	58.0	8.6		
	500	HIRA	45	0032	0033	2	630.0	80.0		
	208	VORO	42	0032	0033	2	136.0			
	200	HIRA	45	0032.8	0033	.8	800.0	120.0		
	1420	CRON	8	0033	0033.5	2	18.0	7.0		
	18	MCNA	6	0034	0035	3			1	
	8800	MANI	4	0105.7	0107.6	6.8	11.8	3.4		
	4995	MANI	3	0105.3	0107.6	7.2	23.8	4.8		
	4995	CRON	3	0106.5	0107.5	2.5	16.0	5.0		
	4995	BOUL	3	0106	0107.5	3	14.0	4.0		
	9400	TYKW	3	0107	0107.6	2	13.0	4.0		
	3750	TYKW	3	0107	0107.6	2	6.0	2.0		
	2695	MANI	2	0107.1	0107.5	.9	5.8	1.9		
	2695	PENT	2	0107.1	0107.2	1	2.0	1.0		
	2000	TYKW	1	0107.2	0107.6	1	2.0	1.0		
	100	GORK	44	0324		396 D		10.0		
	650	GORK	40	0424.5	0425.7	1.3	3.8			
	606	MANI	2	0424.6	0425.6	2.4	10.0	1.0		
	100	HIRA	5	0424.5	0424.6	.5	75.0	30.0		
	100	HIRA	45	0425.2	0425.5	.8	55.0	15.0		
	9100	GORK	20	0505.6	0520	27.9	13.6	6.8		
	8800	MANI	4	0727.5	0731.9	8.5	47.4	10.3		
	8800	ATHN	3	0727.1	0730	7.4	43.5	13.2		
	4995	MANI	4	0727.8	0732	8.2	23.0	10.8		
	9400	SLOU	4	0728	0731	7	60.0			
	9100	GORK	21	0728.8	0739.8	24	11.0	5.0		
	2695	ATHN	4	0728.2	0730.1	6.1	30.8	9.8		
	9500	BERL	4	0729	0731.8	25	40.0	9.1		
	9400	TYKW	3	0729	0731.8	6	40.0	15.0		
	9285	ARCE	3	0729	0732	13				
	4995	CRON	3	0729.5	0732	6	12.0	3.0		
	4995	ATHN	4	0729	0729 U	4 U	35.7	11.2U		
	2830	ARCE	20	0729.3	0731.6	34 U				
	2695	MANI	40	0729.7	0731.5	6.3	63.0	9.1		
	9750	IRKU	3	0730	0732	4.5	29.4	13.3		
	9100	GORK	3	0730.8	0732	4.1	33.0	13.0		
	4995	CANR	3	0730	0732	3	16.0	5.0		
	3000	BERL	4	0730	0731.7	5	9.2	3.5		
	2950	GORK	3	0730.7	0731.7	25 U	6.5	2.0		
	2695	CANR	45	0731.5	0732.5	3.5	58.0	17.0		
	2000	TYKW	45	0731	0731.7	4	235.0	45.0		
	2950	GORK	29	0733.8	0733.8	21	3.3	1.7		
	9400	TYKW	29	0735		25	10.0	7.0		
	1415	ATHN	4	0753.3	0754.2	3.1	46.7	12.0		
	1500	BERL	46	0755.5	0756.3	3	46.0	12.0		
	1420	CRON	45	0755.5	0757	2.5	62.0	25.0		
	1420	CANR	45	0755.5	0756.5	2	45.0	16.0		
	650	GORK	40	0755.9	0757.1	2.3	6.0			
	3000	BERL	1	0756	0757	4	2.4			
	2695	CANR	3	0757.5	0758	2	3.0	1.0		
	536	ONDR	45	0802	0802	1.5	115.0			
	221	ABST	1	0807	0807.8	2	8.0			
	4995	CANR	3	0846	0847	2.5	7.0	3.0		
	9100	GORK	20	0920.8	0937.5	27.9	13.3	6.6		
	9285	ARCE	20	0923	0937.4	44				
	9500	BERL	22	0925	0937.3	39	15.0			
	4995	CANR	3	0926	0928.5	7	9.0	3.0		
	3000	BERL	20	0927	0931.5	6	3.5			
	29	UPIC	45	0930	0933.5	9				
	9285	ARCE	22	1028.7	1041	42				
	113	POTS	45	1038.8	1038.9	.5	100.0	15.0		
	29	UPIC	45	1038.5	1039	1.5				
	23	POTS	45	1038.8	1039.1	1	8000.0	2500.0		
	113	POTS	41	1132.5	1149.4U	28 U	70000.0	850.0		
	23	POTS	41	1132.6	1149.4	19	50000.0D	2500.0D		
	29	UPIC	45	1133		21				
	18	MCNA	6	1138	1140	3			1	
	204	KIEV	41	1139	1149.2	16	196.0			
	15400	SGMR	4	1148.9	1149.3	8.9	348.0	148.0		
	9500	BERL	4	1148.5	1149.4	4.5	340.0	133.0		
	9400	HUAN	4	1148.5	1148.9	9.8	303.9	77.9		
	9400	HUAN		1148.5	1149.1		384.4			
	9400	SLOU	4	1148	1148.5	3	604.0			
	8800	SGMR	4	1148.5	1149.3	8.6	410.0	160.0		
	8800	ATHN	3	1148.5	1149.4	3.2	535.0	155.0		
	7000	SAOP	3	1148.8	1149.6	1.8	449.2	76.3		
	4995	SGMR	4	1148.5	1149.3	6.7	142.0	58.0		
	4995	CANR	8	1148.5	1149	3.5	80.0	29.0		
	4995	ATHN	3	1148.6	1149.4	3.8	153.0	40.0		
	3000	BERL	4	1148.5	1149.2	9	71.0	17.0		

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MAY 1973	FREQUENCY STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} MEAN	INT	REMARKS
2	2830 ARCE	3	1148.7	1149.4	3				
	2800 OTTA	4	1148.5	1149.5	5	76.0	19.0		
	2700 PENN	45	1148.8	1149.4	4.1	149.0	31.6		
	2695 ATHN	3	1148.6	1149.4	5.2	82.6	23.6		
	1500 BERL	4	1148.5	1150	9	48.0	15.0		
	1415 ATHN	3	1148.8	1149.9	5.8	56.4	18.0		
	606 SGMR	4	1148.8	1150	6.2	127.0	52.0		
	550 KIEV	6	1148.7	1149.2	3	130.0			
	510 POTS	45	1148.5U	1149.2U	9.5U	750.0	250.0		
	410 SGMR	48	1148.9	1149.2	8	1010.0	400.0		
	408 TRST	45	1148.8	1149	4.4	250.0D			
	260 ONDR	45	1148	1149.5	6	230.0D			
	245 SGMR	48	1148.4	1149.2	8.4	1900.0	750.0		
	237 TRST	41	1148.6	1149.4	2.5	8900.0			
	234 POTS	45	1148.6	1149.3U	1.7	16000.0	1800.0		
	210 IZMI	48	1148.4	1149.9	2.6	1960.0	1200.0		
	18 MCMA	6	1148	1150	5			2	
	37000 SLOU	4	1149	1149.1	.5	120.0			
	19000 SLOU	4	1149	1149.5	1	252.0			
	10700 PENN	45	1149	1149.5	4	342.0	38.9		
	9285 ARCE	4	1149	1149.6	4				
	2695 SGMR	4	1149	1149.5	5.9	74.2	26.0		
	2695 CANR	8	1149.5	1150.5	6	88.0	31.0		
	1420 CANR	8	1149	1150.5	5.5	46.0	16.0		
	1415 SGMR	4	1149	1149.9	7.5	56.0	22.1		
	960 PENN	45	1149	1150	8.2	70.1	5.9		
	930 BORD	45	1149	1150	7	139.0	9.0		
	808 ONDR	45	1149	1150.5	5.5	240.0			
	536 ONDR	45	1149	1149.5	4.5	160.0			
	225 HARS	5	1149.5	1150	3	200.0D	175.0		
	7000 SAOP	29	1150.6		2.7				
	18 MCMA	42	1205	1211	6			1	
	2800 OTTA	20	1305	1315	90	2.6	1.3		
	7000 SAOP	22	1327		10.9	5.4			
	9400 HUAN	22	1509.3	1641.6	254.4	16.3	2.6		
	2800 OTTA	26	1510		155	3.0			
	2800 OTTA	20	1510	1535	140	4.0	2.4		
	7000 SAOP	41	1614.7		11.3	7.4			
	7000 SAOP	2	1614.7	1616	2.6	7.4	3.4		
	7000 SAOP	2	1621.2	1624.2	4.8	5.2	2.6		
	1420 CANR	3	1708	1709	1.5	2.0	1.0		
	2695 CANR	3	1709	1710	1.5	7.0	2.0		
	18 MCMA	41	1807	1810	5			1	
	2800 OTTA	1	1812.5	1813	2	1.4	0.7		
	2695 BOUL	3	1812	1813.5	2.5	4.0	1.0		
	1420 CANR	8	1837.5	1838.5	1.5	10.0	3.0		
	1420 BOUL	8	1837	1837.5	1	10.0	3.0		
	7000 SAOP	2	1857.6	1859.1	2.4	10.5	7.6		
	4995 SGMR	3	1857.9	1859.1	2.5	11.0	2.8		
	4995 BOUL	3	1857.5	1858.5	1.5	14.0	4.0		
	8800 SGMR	1	1858	1859.2	1.5	9.3	2.5		
	2800 OTTA	2	1858	1859.1	2	3.4	1.4		
	2695 SGMR	1	1858.3	1859.3	2.6	5.7	1.4		
	2695 BOUL	3	1858.5	1859.5	1.5	4.0	1.0		
	2800 OTTA	1	2020	2021.5	2	1.4	0.6		
	245 SGMR	6	2020.5	2020.6	3.7	22.8	4.7		
	100 HIRA	45	2020.5	2021.3	4	120.0	30.0		
	18 BOUL	6	2020	2024	6			1	
	1420 BOUL	3	2021	2021.5	1.5	1.0			
	18 MCMA	41	2021	2023	5			2	
	9400 HUAN	28	2031.7	2039.6	7.9	16.3	4.7		
	10700 PENN	45	2035.7	2041.1	9.9	310.0	68.6		
	4995 SGMR	4	2036.1	2041.3	16.9U	81.8	16.4U		
	2800 OTTA	2	2036	2036.8	1	6.2	3.1		
	15400 SGMR	4	2038.6	2040.9	9.4	381.0	76.2		
	8800 SGMR	4	2038.7	2041.1	16.3U	300.0	75.0U		
	2800 OTTA	46	2038.6	2141.3	7	70.0	35.0		
	2800 OTTA		2038.6	2041.3	4.6	70.0			
	2700 PENN	45	2038.6	2039	8.7	153.0	39.8		
	2695 SGMR	46	2038.8	2039.1	8.2U	83.8	20.8U		
	2695 SGMR	46		2039.8		103.7			
	35000 SGMR	3	2039.8	2041	1.8	136.0	45.0		
	9400 HUAN	45	2039.6	2041.2	6.2	253.3	100.7		
	4995 BOUL	45	2039.5	2041	14	94.0	21.0		
	2695 BOUL	45	2039	2040.5	14.5	75.0	19.0		
	1420 BOUL	45	2039.5	2045.5	14	99.0	24.0		
	1415 SGMR	46	2039	2040.4	13.5	75.2	21.8		
	1415 SGMR	46		2041		86.4			
	1415 SGMR	46		2041.5		76.8			
	1415 SGMR	46		2043.8		131.2			
	960 PENN	45	2039.6	2043.8	5.6	142.0	19.0		
	2800 OTTA		2043.2	2043.7	2.4	35.0			
	10700 PENN	29	2045.6	2045.6	124	54.0	27.0		
	9400 HUAN	29	2045.8	2045.8	32.2	55.6	31.3		
	2800 OTTA	30	2045.6		240 D	16.4			
	960 PENN	29	2045.2	2045.2	22.9	6.1	3.0		
	15400 SGMR	29	2048	2048.4	29.3	45.7	18.0		
	2800 OTTA	1	2050	2050.9	3.5	9.0	4.4		
	960 PENN	45	2050.2	2050.6	2	7.6	1.8		
	1415 SGMR	29	2052.5	2052.5	55.2	4.0	1.8		

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MAY 1973	FREQUENCY STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	REMARKS
2	9400 HUAN	45	2147.9	2148.7	7.9	202.6	40.5		
	8800 MANI	47	2147.6U	2149	2.9U	590.0U	186.0U		SUNRISE
	4995 BOUL	45	2147.5	2148.5	5	102.0	33.0		
	4995 MANI	4	2147.6U	2148.9	2.9U	290.0U	96.0U		SUNRISE
	2695 MANI	4	2147.6U	2148.9	2.8U	104.0U	41.6U		SUNRISE
	1415 MANI	4	2147.6U	2149.1	2.8U	47.3U	21.0U		SUNRISE
	15400 SGMR	4	2148.4	2148.9	5.3	127.9	42.3		
	10700 PENN	3	2148.8	2149.1	1.6	222.0	42.6		
	9400 TYKW	45	2148	2148.9	7	215.0	30.0		
	8800 SGMR	4	2148.7	2149	1.3	145.9	48.7		
	3750 TYKW	45	2148	2148.9	7	75.0	12.0		
	2800 OTTA	45	2148	2149	7	73.0	12.8		
	2800 OTTA		2148	2149	3	73.0			
	2700 PENN	3	2148.5	2149	2.1	102.0	19.4		
	2695 BOUL	45	2148.5	2149.5	7.5	56.0	12.0		
	2000 TYKW	45	2148	2148.9	7	65.0	11.0		
	1420 BOUL	45	2148.5	2149.5	6	30.0	7.0		
	1415 SGMR	4	2148.5	2149.2	6.1	38.8	7.8		
	1000 TYKW	45	2148	2149.3	7	200.0	10.0		
	960 PENN	3	2148.5	2149.4	1.2	185.0	32.3		
	606 MANI	4	2148.5U	2149.3	2 U	39.6U	11.3U		SUNRISE
	606 SGMR	4	2148.7	2149.2	8.4	85.0	28.3		
	500 HIRA	5	2148.3	2148.9	1.5	60.0	20.0		
	410 SGMR	48	2148.5	2149	11.4	530.0	106.0		
	245 SGMR	48	2148.3	2149	11.7	1200.0	240.0		
	200 HIRA	45	2148.5	2148.8U	1.5	850.0D	400.0D		
	100 HIRA	45	2148.2	2149	2.5	260.0	120.0		
	18 MCMA	41	2148	2151	6			2	
	960 PENN	29	2149.7	2149.7	5.1	12.1	2.4		
	208 VORO	42	2149	2149	4	344.0			
	18 BOUL	41	2149	2153	5			1	
	10700 PENN	31	2150.4	2151.1	1.4	-11.4	-8.6		
	10700 PENN	3	2151.8	2152.1	1	22.7	6.8		
	2800 OTTA		2151	2152	4	45.0			
	960 PENN	1	2151.4	2152.1	2.4	3.0	1.0		
	200 HIRA	45	2151	2151.8	2.5	150.0	60.0		
	100 HIRA	45	2151.2	2151.6	1.8	110.0	30.0		
	10700 PENN	31	2152.8	2154	3	-8.5	-3.8		
	9400 TYKW	20	2310	2321	90	8.0	4.0		
	3750 TYKW	20	2310	2321	230	6.0	3.0		
	2695 PENT	21	2310	2342	90	6.2	5.4		
	2000 TYKW	45	2310	2400	90	5.0	3.0		
	1420 BOUL	3	2312.5	2313	1.5	2.0	1.0		
	2695 PENT	1	2425.2	2425.7	1.5	6.6	2.0		
3	4995 BOUL	3	0024.5	0025	1.5	7.0	3.0		
	18 BOUL	6	0024	0025	2			1	
	9400 TYKW	1	0025	0025.7	2	6.0	2.0		
	4995 CRON	3	0025	0025.5	1.5	4.0	1.0		
	3750 TYKW	1	0025	0025.7	2	5.0	1.0		
	2695 MANI	2	0025	0025.7	2.1	7.8	3.3		
	2695 BOUL	8	0025	0026	1.5	10.0	4.0		
	2000 TYKW	1	0025	0025.7	2	9.0	2.0		
	1420 CRON	8	0025	0026	1.5	8.0	3.0		
	1420 BOUL	8	0025	0025.5	1.5	4.0	1.0		
	1415 MANI	2	0025	0025.7	2.1	7.4	3.2		
	1000 TYKW	1	0025	0025.8	3	5.0	1.0		
	606 MANI	1	0025	0025.8	3	1.7	.6		
	208 VORO	42	0025	0029	4	184.0			
	200 HIRA	45	0025 U	0025 U	1.2	850.0D	150.0D		
	200 HIRA	45	0028.9	0029 U	1	850.0D	250.0D		
	100 HIRA	45	0030	0034.2	5	230.0	30.0		
	9750 IRKU	1	0055.8	0056	1.3	3.8			
	1420 BOUL	3	0111.5	0112	1	2.0	1.0		
	9750 IRKU	1	0112	0112.2	1.5	6.0			
	9400 TYKW		0112	0112.3	1	9.0	3.0		
	9750 IRKU	3	0142	0156.2	18	53.0	23.0		
	606 MANI	22	0145.8	0156	14.2	5.1	1.7		
	9400 TYKW	45	0147	0156.2	12	50.0	25.0		
	3750 TYKW	3	0147	0153.1	11	26.0	13.0		
	1000 TYKW	45	0147	0148.5	11	40.0	4.0		
	8800 MANI	22	0148.1U	0156.2	30 U	40.0U	10.0U		
	4995 MANI	22	0148.1U	0153.2	28.4U	29.2U	7.3U		
	2695 MANI	40	0148.1U	0152.5	23.9U	810.0	38.5U		
	2000 TYKW	45	0148	0152.3	10	91.0	13.0		
	1420 CRON	8	0148	0149	2.5	45.0	15.0		
	1415 MANI	40	0148.1U	0148.8	12.9U	63.0U	5.3U		
	1420 CRON	45	0151.5	0154.5	6.5	16.0	4.0		
	3750 TYKW	29	0158		60	11.0	5.0		
	2000 TYKW	29	0158		60	6.0	3.0		
	1000 TYKW	29	0158		60	2.0	1.0		
	9400 TYKW	29	0159		60	22.0	10.0		
	4995 CRON	21	0201	0203.5	44	22.0	5.0		
	2695 CRON	45	0218	0223	25	417.0	124.0		
	606 MANI	40	0241.1	0244	3.1	20.0	6.8		
	2000 TYKW	45	0310	0501	220	14.0	5.0		
	9400 TYKW	45	0315	0320.1	10	10.0	4.0		
	9750 IRKU	1	0316	0320.1	8	11.0	2.0		
	3750 TYKW	20	0320	0531	155	16.0	7.0		
	2695 CRON	3	0329.5	0334	8.5	8.0	3.0		

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MAY 1973	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} MEAN	INT	REMARKS
3	3750	TYKW	1	0330	0334	10	5.0	2.0		
	2000	TYKW	1	0330	0334	10	4.0	2.0		
	200	HIRA	45	0334.5	0335.5	1.5	850.0	100.0		
	100	HIRA	5	0335.5	0335.7	1	500.0	70.0		
	650	GORK	41	0339.9	0339.9	1.7	9.0			
	650	GORK		0339.9	0341.4		28.0			
	9400	TYKW	20	0340	0430	210	10.0	4.0		
	950	GORK	40	0340.8	0341.5	1.4	4.2			
	9750	IRKU	20	0345	0355.1	25	19.0	5.0		
	2695	CRON	45	0438.5	0503	39.5	13.0	4.0		
	1000	TYKW	45	0440	0500	130	4.0	2.0		
	100	HIRA	45	0440	0441.4	2.5	190.0	50.0		
	200	HIRA	45	0441	0441.2	1	300.0	60.0		
	950	GORK	1	0446.2	0447.5	2	1.9	0.8		
	650	GORK	1	0446	0447.1	2.3	3.0	1.1		
	200	HIRA	45	0446.8	0447.1	.8	350.0	30.0		
	100	HIRA	45	0446.5	0447.2	3.5	240.0	80.0		
	1420	CRON	3	0448.5	0502.5	25.5	8.0	3.0		
	237	TRST	42	0510.9	0511.3	1.6	85.0			
	950	GORK	22	0518.5	0521.2	8.5	6.3	2.7		
	1000	TYKW	45	0519	0523	9	7.0	2.0		
	650	GORK	2	0519.1	0522.8	3.9	4.6	1.9		
	1415	MANI	3	0536.3	0538.6	3.5	15.8	3.2		
	606	MANI	2	0536.3	0538.3	4.7	9.1	2.9		
	9750	IRKU	3	0537.9	0538	5	54.0	5.0		
	9400	TYKW	3	0537.8	0538.1	2	50.0	13.0		
	8800	MANI	4	0537.5	0538.2	4.7	52.0	16.0		
	8800	ATHN	2	0537.7	0538.2	2.3	27.6	7.9		
	4995	MANI	4	0537.3	0538.3	4.9	14.6	4.4		
	4995	ATHN	1	0537.3	0538.3	2.1	7.8	1.9		
	2950	GORK	4	0537.8	0538.4	1.9	21.0	2.0		
	2695	MANI	4	0537	0538.3	5.6	26.8	4.4		
	2695	ATHN	2	0537.3	0538.3	3	12.5	4.6		
	234	POTS	45	0537 U	0538.5U	2.5U	450.0	60.0		
	200	HIRA	45	0537	0537 U	1.5	850.0D	370.0D		
	113	POTS	45	0537 U	0539 U	3 U	800.0	120.0		
	9100	GORK	3	0538.1	0538.3	1.8	49.0	10.0		
	3750	TYKW	3	0538	0538.3	2	31.0	2.0		
	3100	CRIM	3	0538	0539	2	30.0	10.0		
	2000	TYKW	1	0538	0538.5	1	9.0	4.0		
	1420	CRON	8	0538	0538.5	1	15.0	5.0		
	1415	ATHN	2	0538	0538.6	1.6	11.0	4.6		
	1000	TYKW	8	0538	0538.5	1	11.0	3.0		
	950	GORK	3	0538.2	0538.5	.8	8.7	4.3		
	650	GORK	3	0538	0538.6	1.7	9.0	2.0		
	260	ONDR	45	0538	0538	2	180.0			
	237	TRST	45	0538	0538.5	.9	780.0	260.0		
	100	HIRA	45	0538	0538.6	2	850.0	180.0		
	1000	TYKW	45	0545	0547.8	7	10.0	2.0		
	950	GORK	2	0545.6	0547.9	4.6	7.0	3.5		
	200	GORK	41	0546.5		3.1	300.0D			
	650	GORK	40	0548.2	0551.3	3.8	1.8			
	3750	TYKW	20	0603	0617	38	10.0	6.0		
	950	GORK	1	0610	0610.3	.5	3.5	1.7		
	606	MANI	40	0622.7	0631.4	12.5	540.0	6.9		
	1415	MANI	40	0626.3	0631.4	7.1	42.6	4.5		
	260	ONDR	45	0628	0632	7	230.0			
	237	TRST	42	0628.7	0629.2	6.3	430.0			
	237	TRST		0628.7	0631.3		4100.0			
	234	POTS	41	0628.7	0631.3	4.2	2700.0	35.0		
	200	HIRA	45	0628.5	0629.2	1	145.0	40.0		
	113	POTS	40	0628.7	0631.4	4.4	2800.0	100.0		
	100	HIRA	45	0628.7	0628.9	1.5	170.0	60.0		
	100	GORK	41	0628.7	0629.5	3.1	300.0			
	100	GORK		0628.7	0631.6		9000.0			
	23	POTS	40	0628.8	0629.8	4.1	8000.0	400.0		
	536	ONDR	45	0630.5	0631.5	5	360.0			
	200	GORK	48	0630.8	0632.2	2.2	2000.0			
	2950	GORK	4	0631.9	0632.1	.6	22.0	6.2		
	2695	ATHN	4	0631.7	0632.2	1.6	12.5	4.6		
	2000	TYKW	45	0631	0632	2	10.0	1.0		
	1420	CRON	45	0631	0631.5	2	33.0	8.0		
	1415	ATHN	4	0631	0631.4	2.2	30.2	7.0		
	1000	TYKW	45	0631	0631.4	2	150.0	16.0		
	950	GORK	4	0631.3	0631.4	2.1	50.0D			
	808	ONDR	45	0631.5	0631.5	2.5	310.0			
	650	GORK	4	0631.6	0631.9	5.7	125.0D			
	510	POTS	45	0631 U	0631.1U	1.5	500.0	50.0		
	500	HIRA	45	0631.4	0631.6	1.5	650.0	85.0		
	200	HIRA	45	0631	0631.2U	2.2	850.0D	150.0D		
	100	HIRA	45	0631.2	0631.5	2.3	220.0	60.0		
	4995	ATHN	1	0632	0632.2	1.2	3.9	1.5		
	3100	CRIM	3	0632	0633	2	22.0	7.0		
	225	HARS	5	0632.5	0633.5	2	200.0D	135.0		
	100	GORK	44	0640		320 D		10.0		
	245	SGMR	44	0939 E	1015.2	842 D	31.8			
	9400	TYKW	20	0642	0644.1	15	6.0	2.0		
	4995	CRON	3	0643	0645	4.5	6.0	2.0		
	3750	TYKW	1	0643	0644	10	3.0	1.0		
	200	GORK	6	0658.1	0658.2	.4	130.0	70.0		

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MAY 1973	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	REMARKS
3	113	POTS	45	0658	0658.2	.6	300.0	20.0		
	100	HIRA	45	0658	0658.3	1	390.0	70.0		
	100	GORK	6	0658	0658.3	.8	2800.0	1400.0		
	23	POTS	5	0658	0658.4	1	4000.0	1500.0		
	3100	CRIM	47	0731	0732	53	900.0	300.0		
	260	ONDR	45	0752	0753.5	9	130.0			
	237	TRST	42	0752.2	0753.6	3	1700.0			
	100	GORK	41	0752	0752.4	24	30.0			
	100	GORK		0752	0753.8		500.0			
	234	POTS	41	0753.3	0753.7	4.3	900.0	12.0		
	221	ABST	1	0753	0753.5	.8	58.0			
	210	IZMI	6	0753.3	0753.6	.7	560.0	400.0		
	200	GORK	41	0753.3	0753.4	.7	50.0			
	200	GORK		0753.3	0753.7		185.0			
	100	HIRA	45	0753.4	0753.8	1.5	80.0	30.0		
	29	UPIC	45	0753	0754	2				
	23	POTS	5	0753.7	0753.8	.9	15000.0	5000.0		
	237	TRST	5	0757.5	0757.6	.1	290.0	87.0		
	200	GORK	6	0757.5	0757.6	.2	185.0	90.0		
	2950	GORK	23	0817.5		74 U				
	8800	MANI	47	0829.7	0833.5	21.7	2500.0	880.0		
	8800	ATHN	47	0829.8	0834.2	26.5	825.0	185.0		
	2695	CRON	47	0829.5	0834	34	687.0	153.0		
	930	BORD	45	0829	0837.2	9	354.0	75.0		
	71000	SLOU	47	0830 U	0833	10 U	22200.0U			
	37000	SLOU	47	0830 U	0832.5	10 U	8000.0U			
	19000	SLOU	47	0830	0833	15 U	3060.0U			
	9500	BERL	46	0830	0833.4	325	1350.0			
	9400	SLOU	47	0830	0832.5	18	2140.0			
	9285	ARCE	28	0830.4	0831.3	1.1				
	9100	GORK	46	0830.8	0833.7	87.2	1560.0	170.0		
	9100	GORK		0830.8	0832.5		1480.0	500.0		
	9100	GORK		0830.8	0833.7		1560.0			
	4995	CRON	47	0830	0834	24	1325.0	267.0		
	4995	CANR	47	0830.5	0834	68.5	1315.0	179.0		
	4995	MANI	47	0830.8	0833.5	20.6	1740.0	740.0		
	3000	BERL	46	0830	0834	320	700.0			
	2950	GORK	46	0830.7	0832.6	14.8	957.0			
	2950	GORK		0830.7	0833.6		1030.0			
	2830	ARCE	46	0830.6	0833.4	12.2				
	2830	ARCE		0830.4	0832.4	2.8				
	2695	MANI	47	0830.8	0833.4	20.6	1100.0	400.0		
	2695	ATHN	47	0830.3	0834.2	24.2	983.0	225.0		
	1500	BERL	46	0830	0834.4	235	600.0			
	1420	CRON	47	0830.5	0834.5	71.5D	1324.0	96.0		
	1415	MANI	47	0830.8	0834	26.9	800.0	265.0		
	950	GORK	21	0830	0853.4U	234	11.4	5.7		
	9285	ARCE	46	0831.5	0833.5	10.9				
	9285	ARCE		0831.5	0832.5	1.8				
	4995	ATHN	47	0831 U	0834.2	23 U	553.0	153.0U		
	2695	CANR	47	0831.5	0834.5	60.5	1169.0	219.0		
	1420	CANR	47	0831.5	0835.5	57	870.0	116.0		
	950	GORK	46	0831.8	0833.4	26.4	394.0			
	950	GORK		0831.8	0837.3		332.0			
	950	GORK		0831.8	0841.3		280.0			
	950	GORK		0831.8	0856.7		88.0			
	606	MANI	47	0831.2	0857	35.6	940.0	395.0		
	408	TRST	42	0831.7	0834.7	6				
	29	UPIC	45	0831	0852	135.5				
	1415	ATHN	47	0832.1	0834.6	39.4	621.0	141.0		
	808	ONDR	45	0832	0834	30	470.0			
	650	GORK	46	0832.3	0833.6	36	400.0			
	650	GORK		0832.3	0840.9		315.0			
	650	GORK		0832.3	0854.3		297.0			
	650	GORK		0832.3	0857.1		797.0			
	550	KIEV	49	0832.2	U	66.2	190.0D			
	536	ONDR	45	0832	0857	42	380.0			
	510	POTS	45	0832 U	0857 U	69 U	550.0	130.0		
	500	HIRA	45	0832.7	0857.2U	29 D	400.0D	90.0D		SUNSET
	9285	ARCE		0833.3	0833.5	3.2				
	2830	ARCE		0833.2	0833.4	3.2				
	260	ONDR	45	0833		97	230.0D			
	237	TRST	47	0833.4	0835	97	643000.0D			
	237	TRST		0833.4	0857		3200.0			
	237	TRST		0833.4	0937		340.0			
	234	POTS	45	0833 U	0836 U	104 U	100000.0D	1900.0D		
	221	ABST	1	0833.8	0836	4.5	779.0			
	210	IZMI	49	0833.4	0837	91.6	20250.0			
	210	IZMI	48	0833.4	0837	4.9	20250.0	1980.0		
	204	KIEV	49	0833.1	0836 U	115	230.0D			
	200	HIRA	45	0833		51 D	850.0D	320.0D		SUNSET
	200	GORK	48	0833.3	0836.1	3.2	4500.0			
	100	GORK	48	0833.7	0837.7	10.5	200000.0			
	100	GORK		0833.7	0839.7		200000.0			
	113	POTS	45	0834 U	0839 U	191 U	40000.0	370.0		
	100	HIRA	45	0834.5	0837.5	36 U	240.0	70.0U		SUNSET
	23	POTS	45	0835 U	0847 U	175 U	35000.0	400.0		
	9285	ARCE		0836.5	0837.2	3.6				
	2830	ARCE		0836.4	0836.9	3.6				
	9285	ARCE		0840.1	0840.8	2.3				

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3	2830	ARCE		0840	0841	2.6				
	9100	GORK	29	0841.6	0841.6	76.4	156.0	20.0		
	9285	ARCE	29	0842.4		80				
	2830	ARCE	29	0842.6		78				
	9285	ARCE	2	0843.2	0843.5	1.5				
	2950	GORK	29	0845.7	0845.7	46	31.0			
	221	ABST	1	0848	0848.2	.8	58.0			
	8800	MANI	29	0851.4	0851.4	43.8	44.0	17.6		
	4995	MANI	29	0851.4	0851.4	43.8	27.7	15.4		
	2695	MANI	29	0851.4	0851.4	43.8	12.0	5.5		
	408	TRST	27	0853	0904.1	20	560.0			
	210	IZMI	48	0854.6	0856.5	10.7	1550.0	1200.0		
	221	ABST	1	0855	0856.2	3.2	218.0			
	1415	MANI	29	0857.7	0857.7	37.5	6.7	2.2		
	606	MANI	29	0906.8	0906.8	29.2D	18.2	5.7D		SUNSET
	650	GORK	29	0908.3	0914.7	62.7	12.0	4.2		
	210	IZMI	41	0912.3	0918.1	8.7	2560.0			
	100	GORK	41	0916.9	0917.4	4.4	300.0			
	100	GORK		0916.9	0919.1U		300.0D			
	100	GORK		0916.9	0921		300.0			
	9285	ARCE	1	0917.9	0918.5	1.4				
	237	TRST	42	0917.3	0918.7	1.8	6800.0			
	234	POTS	41	0917.2	0920.9	4.6	8000.0	300.0		
	221	ABST	1	0917.2	0917.8	1	195.0			
	200	GORK	41	0917.1	0917.3	4	700.0			
	200	GORK		0917.1	0918.5		700.0D			
	200	GORK		0917.1	0921		700.0			
	113	POTS	41	0917.2	0918.6	4	700.0	30.0		
	9100	GORK	1	0918.4	0918.5	.5	11.7	5.8		
	408	TRST	41	0918.3	0918.5	.8	71.0			
	408	TRST	41	0920.8	0920.8	.4	1100.0			
	237	TRST	45	0920.8	0920.9	.2	12600.0	3800.0		
	210	IZMI	24	0933	0937	32	420.0	370.0		
	1420	CANR	45	0934.5	0936.5	5.5	7.0	2.0		
	930	BORD	45	0934	0936.3	6	43.0	5.0		
	408	TRST	42	0934.9	0938.8	5	14.0			
	950	GORK	3	0935.1	0936.6U	2.1	40.0			
	221	ABST	1	0935.2	0937.5	5	202.0			
	221	ABST	3	1000	1001.2	2.5	69.0	26.0		
	210	IZMI	41	1040.7	1045	4.8	1320.0			
	204	KIEV	8	1040.5	1045	5.5	173.0			
	200	GORK	41	1041	1041.1	4.3	85.0			
	200	GORK		1041	1042.5		200.0			
	200	GORK		1041	1046.1		200.0D			
	260	ONDR	5	1045	1045	.5	30.0			
	237	TRST	45	1045	1045.2	.3	150.0D			
	234	POTS	45	1045.1	1045.2	.3	200.0	40.0		
	113	POTS	45	1045.1	1045.2	.5	1000.0	200.0		
	100	GORK	6	1045	1045.3	1	400.0D			
	29	UPIC	5	1045.5	1046	1				
	23	POTS	5	1045.2	1045.4	.7	15000.0	5000.0		
	221	ABST	1	1049	1049.2	.5	195.0			
	7000	SAOP	22	1051 E		51 U	10.2			
	260	ONDR	45	1053	1053.5	2.5	40.0			
	2800	OTTA	22	1100 E	1115	170 D	7.2			
	18	MCMA	6	1120	1122	2			1	
	113	POTS	40	1121	1122.6	1.7	200.0	8.0		
	23	POTS	40	1121.1	1121.2	1.3	2000.0	150.0		
	113	POTS	40	1142.4	1144.2	2.3	700.0	50.0		
	100	GORK	41	1142.3	1142.6	2.6	20.0D			
	100	GORK		1142.3	1144.8		300.0			
	23	POTS	40	1142.5	1144.3	3.3	10000.0	1000.0		
	260	ONDR	45	1143.5	1143.5	1.5	130.0			
	245	SGMR	6	1143.8	1144	1	230.0	75.0		
	237	TRST	41	1143.6	1143.8	1.2	520.0			
	234	POTS	40	1143.7	1143.8	1	350.0	18.0		
	210	IZMI	6	1143.6	1144	1.3	490.0	420.0		
	204	KIEV	8	1143.4	1143.7	1.5	117.0			
	200	GORK	41	1143.6	1144.2	1.7	1700.0			
	200	GORK		1143.6	1144.8		3000.0			
	7000	SAOP	3	1152.8	1152.9	.6	3.8	1.9		
	100	GORK	6	1200	1220.5	1	300.0			
	7000	SAOP	22	1215.8		10.6	9.2			
	4995	CANR	3	1219.5	1220	1.5	6.0	2.0		
	1420	CANR	8	1219.5	1220.5	1.5	3.0	1.0		
	245	SGMR	6	1219.9	1220.4	1.7	260.0	50.0		
	237	TRST	45	1219.9	1220	1	200.0D			
	200	GORK	41	1219.9	1220.5	2	400.0			
	200	GORK		1219.9	1221.6		55.0			
	8800	SGMR	1	1220.2	1220.4	2	7.4	1.7		
	4995	SGMR	1	1220.2	1220.4	1	4.8	1.1		
	2950	GORK	1	1220	1220.5	1.2	3.8	1.9		
	1415	SGMR	1	1220.3	1220.6	2.2	2.3	.8		
	950	GORK	1	1220.3	1220.5	.4	6.7	3.3		
	808	ONDR	5	1220	1220	.5	170.0			
	650	GORK	3	1220.4	1220.5	.3	10.5	5.2		
	606	SGMR	1	1220.3	1220.4	.7	1.2	.4		
	410	SGMR	6	1220.2	1220.3	.9	2.9	.7		
	260	ONDR	45	1220	1220.5	1.5	75.0			
	234	POTS	45	1220.3	1220.3	.3	450.0	90.0		

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MAY 1973	FREQUENCY STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} MEAN	INT	REMARKS
3	113 POTS	45	1220	1220.5	1	800.0	120.0		
	29 UPIC	45	1220	1221	2.5				
	23 POTS	45	1220	1220.3	1.8	7500.0	2000.0		
	7000 SAOP	22	1235		20.5	5.8			
	408 TRST	41	1251	1251.5	.8				
	2800 OTTA	20	1255	1315	55	4.6	2.6		
	29 UPIC	45	1343	1344.5	2				
	7000 SAOP	32	1345.6		24.2	5.8			
	2800 OTTA	21	1413	1515	145	2.4	1.2		
	113 POTS	5	1422.8	1422.9	.1	350.0	120.0		
	29 UPIC	45	1422	1426.5	5				
	7000 SAOP	22	1459.7		57	7.4			
	18 MCMA	41	1503	1504	5			1	
	18 MCMA	6	1543	1544	2			1	
	18 BOUL	6	1550	1554	4			2	
	10700 PENN	1	1552.7	1552.8	1.4	5.0	2.1		
	9400 HUAN	1	1552.3	1552.9	1	10.0	3.3		
	8800 SGMR	3	1552.6	1552.8	.4	14.8	4.0		
	8800 ATHN	1	1552.8	1553.7	.9	8.2	2.1		
	7000 SAOP	1	1552.6	1552.8	1	16.7	8.3		
	4995 SGMR	3	1552.6	1552.7	1.7	11.8	3.0		
	2800 OTTA	1	1552.5	1552.9	1.5	10.6	2.5		
	2695 SGMR	1	1552.8	1552.9	1.6	3.2	1.0		
	2695 BOUL	8	1552.5	1553	1	10.0	4.0		
	2695 ATHN	1	1552.8	1553.2	.9	6.0	2.4		
	1420 CANR	8	1552.5	1553.5	1.5	10.0	4.0		
	1415 SGMR	3	1552.7	1553	3.9	14.1	4.0		
	1415 ATHN	3	1552.7	1553.2	1	11.8	3.7		
	606 SGMR	1	1552.6	1552.7	2.1	4.9	1.5		
	410 SGMR	6	1552.5	1552.7	.5	132.5	25.0		
	260 ONDR	45	1552	1553	1.5	130.0			
	245 SGMR	7	1552.3	1552.8	1.5	465.0	90.0		
	237 TRST	41	1552.6	1552.8	.6	990.0			
	29 UPIC	45	1552	1554	3				
	7000 SAOP	29	1553.6		3.4				
	18 MCMA	6	1553	1557	5			3	
	2695 CANR	8	1554	1554.5	1	8.0	3.0		
	1420 BOUL	8	1557.5	1558	1.5	13.0	5.0		
	18 MCMA	6	1711	1712	2			1	
	2800 OTTA	22	1715		65	1.6	1.0		
	18 MCMA	6	1735	1737	2			1	
	18 BOUL	6	1817	1819	3			1	
	18 MCMA	6	1818	1820	2			1	
	2800 OTTA	20	1825	1922	110	3.4	1.7		
	2800 OTTA	24	2040		25	2.0			
	18 MCMA	6	2049	2050	3			1	
	18 MCMA	42	2119	2121	6			1	
	18 MCMA	42	2133	2135	14			1	
	100 HIRA	45	2337.7	2339.2	2.5	70.0	15.0		
4	2695 PENT	26	0000		40	3.4			
	3750 TYKW	20	0113	0115	40	4.0	2.0		
	2000 TYKW	20	0200	0205	30	2.0	1.0		
	9400 TYKW	20	0230	0248	40	8.0	3.0		
	3750 TYKW	45	0230	0248	40	9.0	3.0		
	100 HIRA	5	0235.5	0235.6	1	190.0	60.0		
	2000 TYKW	20	0240	0248	20	4.0	2.0		
	2695 CRON	3	0242	0248.5	12.5	7.0	2.0		
	1000 TYKW	45	0242	0242.1	1	3 .0	1.0		
	1000 TYKW	45	0247	0247.8	3	23.0	3.0		
	1420 CRON	8	0248	0248.5	1	5.0	2.0		
	9400 TYKW	20	0350	0445	120	11.0	5.0		
	4995 CRON	45	0352.5	0355.5	3.5	8.0	3.0		
	3750 TYKW	45	0352	0353	15	5.0	2.0		
	3750 TYKW	45	0352	0508	125	8.0	3.0		
	2000 TYKW	20	0352	0450	120	4.0	2.0		
	100 GORK	41	0435.2	0435.4	3.3	100.0			
	100 GORK		0435.2	0436.9		280.0			
	1420 CRON	3	0436	0437.5	3	1.0			
	100 HIRA	45	0436.5	0436.7	2	85.0	20.0		
	950 GORK	20	0437	0437.5	11.5	1.0	0.7		
	9750 IRKU	20	0516	0532	34	22.0	8.0		
	1415 ATHN	1	0606.8	0611.1	9.2	3.0	1.2		
	9750 IRKU	1	0609.6	0610.1	2.5	20.0	4.0		
	8800 ATHN	3	0609.3	0610.1	2.1	12.5	4.2		
	4995 CRON	3	0609.5	0610	1.5	6 .0	2.0		
	2000 TYKW	1	0609	0610.3	3	2.0	1.0		
	9400 TYKW	8	0610	0610.3	1	16.0	5.0		
	9400 SLOU	3	0610	0610.2	1	20.0			
	9100 GORK	1	0610	0610.1	.8	12.3	6.0		
	9400 TYKW	45	0611		10	4.0	2.0		
	9750 IRKU	3	0622.9	0623.1	7.5	27.0	9.0		
	9500 BERL	4	0622	0622.8	4.5	19.0	5.9		
	9400 TYKW	3	0622.9	0623.1	1.5	15.0	5.0		
	9100 GORK	1	0622.9	0623.1	2.2	14.4	7.2		
	8800 MANI	3	0622.8	0623.2	1.8	22.9	6.2		
	8800 ATHN	3	0622.7	0623.2	2	12.5	4.2		
	37000 SLOU	3	0623	0623.1	1	60.0			
	19000 SLOU	3	0623	0623.1	1	100.0			
	9400 SLOU	3	0623	0623.1	1.5	23.0			
	9400 TYKW	3	0636	0637.1	3	17.0	5.0		

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MAY 1973	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	REMARKS
4	37000	SLOU	3	0637	0637.1	1	360.0			
	19000	SLOU	3	0637	0637.2	1.5	164.0			
	9750	IRKU	3	0637	0637.2	11.5	28.0	5.0		
	9750	IRKU		0637	0637.3		21.0			
	9500	BERL	3	0637	0637.2	1.5	17.0	4.3		
	9400	SLOU	3	0637	0637.1	1.5	20.0			
	9100	GORK	1	0637	0637.2	2	16.4	8.2		
	221	ABST	1	0747.5	0747.8	.5	28.0			
	113	POTS	5	0800.9	0800.9	.1	600.0	200.0		
	221	ABST	1	0815	0815.2	.5	27.0			
	204	KIEV	42	0830		26	11.0	5.0		
	221	ABST	1	0842.5	0842.8	.5	20.0			
	210	IZMI	6	0852.8	0853	.4	50.0	30.0		
	100	HIRA	5	0853.9	0854	.7	70.0	25.0		
	113	POTS	5	0854	0854.1	.1	200.0	70.0		
	29	UPIC	44	0854		70				
	245	SGMR	44	0938 E	1529.7	844 D	60.3			
	260	ONDR	41	1110	1500	290	40.0			
	204	KIEV	42	1254		91	17.0	5.0		
	245	BOUL	42	1303	1501	225			1	
	245	BOUL	42	1614	1854	249			1	
	245	BOUL	41	2110	2116	8			1	
	245	BOUL	42	2217	2251	36			1	
	23	POTS	5	0854	0854.2	.7	15000.0	5000.0		
	100	GORK	41	0856	0856.1U	4	60.0D			
	100	GORK		0856	0857.5U		60.0			
	100	HIRA	5	0857	0857.4	1	40.0	15.0		
	113	POTS	41	0935.6	0937.8	2.4	200.0	8.0		
	100	GORK	41	0935.4	0935.7	3	60.0			
	100	GORK		0935.4	0937.9U		60.0D			
	23	POTS	41	0935.6	0937.9	3.6	10000.0	800.0		
	9285	ARCE	21	0945	1036.1	87				
	210	IZMI	6	1044.4	1044.5	.2	160.0	100.0		
	9285	ARCE	45	1048.2	1048.4	1.5				
	29	UPIC	45	1122	1124	5				
	113	POTS	45	1123.2	1123.5	.8	150.0	7.0		
	23	POTS	45	1123.2	1123.3	1.1	7000.0	600.0		
	18	MCMA	6	1207	1209	2			2	
	237	TRST	41	1222.4	1222.8	.7	65.0			
	18	BOUL	41	1235	1240	7			2	
	2800	OTTA	24	1240		55	4.1			
	2830	ARCE	3	1314.4	1315	1.4				RECORD DIST
	2830	ARCE	29	1315.8		11.5				
	7000	SAOP	4	1417.2	1420.5	7.3	8.1	3.8		
	4995	CANR	3	1418.5	1419.5	7.5	6.0	2.0		
	2800	OTTA	20	1420	1432	35	2.4	1.2		
	2700	PENN	20	1453.1		300				
	9400	HUAN	20	1455.2	1505.3	86.6	13.5	5.7		
	8800	ATHN	20	1455	1505.2	59.1	13.3	4.3		
	4995	ATHN	20	1455	1505.2	59.1	19.2	5.1		
	2800	OTTA	21	1455	1540	255	12.8	6.8		
	2695	ATHN	20	1455	1505.2	100.6	21.2	4.7		
	1415	ATHN	20	1455	1505.2	98.1	6.1	1.2		
	9285	ARCE	24	1456.1		6				
	2830	ARCE	24	1456		6				
	8800	SGMR	22	1501.1	1545.6	72.9	9.8	3.2		
	7000	SAOP	22	1501.6		14.1	10.2			
	2800	OTTA	4	1501.8	1505	8	12.8	6.0		
	2695	SGMR	2	1501.6	1505.1	8.4	7.2	2.4		
	606	SGMR	2	1501.5	1502.3	9	4.7	1.6		
	410	SGMR	1	1501.7	1501.8	3.2	3.2	1.0		
	1415	SGMR	2	1502.4	1505.8	8.9	3.4	1.1		
	9285	ARCE	20	1503.3	1505.8	80 U				
	4995	CANR	3	1503	1505	6	10.0	3.0		
	2830	ARCE	20	1503.4	1504.9	7.4U				
	2695	CANR	45	1504.5	1507	7	14.0	4.0		
	1420	CANR	45	1504	1505.5	6	4.0	1.0		
	2800	OTTA	1	1935	1935.5	2	3.2	1.6		
	2695	BOUL	3	1935	1936	2	4.0	2.0		
	2800	OTTA	26	2000		35	5.2			
	18	MCMA	6	2005	2007	4			1	
	18	MCMA	41	2030	2033	4			1	
	2800	OTTA	1	2031.8	2132	2	2.0	1.0		
	2800	OTTA	20	2100	2101	10	1.4	0.7		
	18	MCMA	6	2121	2122	2			1	
	18	MCMA	41	2137	2139	8			1	
	2800	OTTA	1	2222.5	2224	4.5	1.6	0.8		
	2695	PENT	20	2240	2323	80	3.4	1.7		
5	3750	TYKW	20	0150	0215	70	4.0	2.0		
	3750	TYKW	45	0325	0539	270	13.0	5.0		
	9400	TYKW	20	0425	0540	190	20.0	3.0		
	9100	GORK	1	0428.1	0429.1	4.1	6.8	3.4		
	9400	TYKW	45	0452	0452.5	15	35.0	8.0		
	9100	GORK	41	0452.3	0452.5	7.7	32.7			
	9100	GORK		0452.3	0457.3		21.0			
	8800	MANI	4	0452.3	0452.6	9.4	33.3	13.3		
	4995	MANI	1	0452.3	0452.6	12.4	2.8	1.4		
	260	ONDR		0500	0703.5	640	30.0			
	2950	GORK	20	0520.1		131	29.0	20.0		

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MAY 1973	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} MEAN	INT	REMARKS
5	2000	TYKW	20	0520	0540	160	5.0	2.0		
	650	GORK	1	0523.5	0524	1.1	3.3	1.6		
	9100	GORK	20	0527.9	0655.3	153	25.0	10.0		
	221	ABST	1	0716.2	0716.2	.5	28.0			
	650	GORK	1	0718.9	0719.5	1	1.3	0.6		
	23	POTS	45	0738.3	0739.1	1.2	7000.0	1000.0		
	29	UPIC	45	0739	0740	1				
	9100	GORK	20	0823.8	0826.8	8.4	6.6	3.3		
	9100	GORK	1	0841.9	0844.7	4.4	6.0	3.0		
	100	GORK	6	0857.5	0859.3	2.7	20.0D			
	4995	ATHN	3	0920.9	0931.2	12.8	19.0	6.0		
	8800	ATHN	3	0921.1	0930.9	13.6	25.3	8.4		
	2695	ATHN	3	0921.2	0930.7	14.2	31.6	10.5		
	9285	ARCE	22	0922.1	0930.8	100 U				
	3000	BERL	3	0924	0931	94	25.0	5.7		
	2950	GORK	3	0924	0931.3	50 D	49.0	15.5		
	536	ONDR	45	0926	0927.5	4	55.0			
	9100	GORK	20	0927.2	0931.6	42.9	24.4	8.8		
	4995	CANR	3	0927	0931.5	16.5	23.0	7.0		
	1500	BERL	3	0927.5	0931	93	4.4	1.3		
	1420	CANR	3	0927.5	0931	6.5	4.0	1.0		
	650	GORK	1	0927.6	0927.8	.6	2.7E	1.3		
	237	TRST	42	0927.7	0928.6	3.9	78.0			
	29	UPIC	45	0927	0929	3				
	8800	MANI	40	0928.7	0935.4U		71.0U			
	4995	MANI	40	0928.7	0932.6U		54.0U			
	2695	MANI	40	0928.8	0952.4U		24.4U			
	1415	MANI	40	0928.8	0937.8U		20.8U			
	1415	ATHN	1	0928.7	0931	4.9	3.7	1.2		
	950	GORK	40	0928.9	0929.6	3.5	18.0			
	2695	CANR	45	0930	0933	11	24.0	9.0		
	2950	GORK	29	0936	0936	38 D	18.5			
	29	UPIC	45	0937	0937.5	2				
	9100	GORK	20	1026.8	1031.2	7.5	6.6	3.3		
	3000	BERL	20	1103	1122.2	47	4.5			
	10700	PENN	40	1107.6		89.6				
	8800	SGMR	45	1107.9	1109.9	5.9	11.1	2.5		
	8800	SGMR	45		1112.6		9.8			
	8800	ATHN	45	1107.9	1109.9	7.7	6.6	2.2		
	4995	CANR	3	1109	1102.5	11	11.0	4.0		
	2800	OTTA	20	1110	1113	25	4.0	2.0		
	4995	SGMR	1	1111.7	1112.6	5.3	6.1	2.0		
	1415	SGMR	4	1111.3	1112.3	3.9	10.1	1.5		
	1500	BERL	3	1112.2	1112.3	.8	6.4	1.7		
	7000	SAOP	4	1134.9	1135.4	1.1	12.1	5.8		
	7000	SAOP	29	1136		2.2				
	9285	ARCE	1	1137.7	1138.4	2.3				
	2800	OTTA	26	1140		50	5.4			
	4995	CANR	3	1147.5	1148	1.5	9.0	3.0		
	9285	ARCE	3	1159.5	1200	1.5				
	7000	SAOP	4	1159.2	1200	1.9	12.1	5.8		
	1420	CANR	45	1212	1218.5	19	134.0	44.0		
	18	MCMA	6	1217	1218	2			1	
	2800	OTTA	24	1340		20	2.0			
	18	MCMA	6	1425	1426	2			1	
	2800	OTTA	20	1430	1508	90	1.6	0.8		
	2800	OTTA	20	1620	1621	14	1.4	0.7		
	2695	SGMR	21	1646.5	1752.4	148.1	34.3	13.8		
	2800	OTTA	1	1647.5	1648	2.5	1.0	0.5		
	4995	SGMR	21	1648	1759.9	142.6	57.4	22.4		
	8800	SGMR	23	1653.9	1800	138	69.3	26.6		
	2800	OTTA	21	1655	2010	630	14.6			
	2700	PENN	3	1655.8	1716.9	26	417.0	66.0		
	10700	PENN	3	1656.8	1717.9	25.5	333.0	49.5		
	15400	SGMR	21	1659	1755.3	129.5	54.3	22.0		
	9400	HUAN	28	1702.1	1715.3	13.2	50.9	15.5		
	2800	OTTA	21	1705	1755	130	36.0	18.0		
	960	PENN	3	1710.8	1719.4	14.9	47.9	17.0		
	9285	ARCE	45	1712.7	1718	8.2				AT SUNSET
	9285	ARCE		1712.7	1716.4	4.6				
	4995	SGMR	46	1712.5	1716.2	21	445.0	194.0		
	4995	SGMR	46		1718		485.0			
	4995	BOUL	47	1712	1718.5	102	505.0	81.0		
	2800	OTTA	4	1712.7	1717	11.3	355.0	110.0		
	2695	SGMR	46	1712.7	1716.2	21.3	345.0	138.0		
	2695	SGMR	46		1717.9		275.0			
	2695	BOUL	45	1712.5	1718	120	284.0	44.0		
	1420	BOUL	45	1712.5	1718.5	60.5	131.0	25.0		
	1415	SGMR	46	1712.8	1717.1	18.8	158.0	63.2		
	1415	SGMR	46		1718.5		132.0			
	8800	SGMR	47	1713.5	1716.2	20.8	497.0	224.0		
	8800	SGMR	47		1717.9		560.0			
	4995	CANR	45	1713	1719	19	399.0	85.0		
	960	PENN	8	1713.3	1713.3	.2	13.7			
	15400	SGMR	46	1714.9	1716.2	16.7	220.0	110.0		
	15400	SGMR	46		1717.9		275.0			
	2695	CANR	45	1714	1718	17	318.0	108.0		
	35000	SGMR	3	1715.5	1716.2	7.8	129.0	62.0		
	9400	HUAN	46	1715.3	1716.2	4.5	339.0	247.7		
	9400	HUAN			1718		475.4			

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5	606	SGMR	20	1715.3	1720	18.5	18.0	9.0		
	410	SGMR	6	1716.5	1720.2	11.5	3.7	1.9		
	9285	ARCE		1717.3	1718	3.6				
	9400	HUAN	30	1719.8	1719.8	106.4	84.9	36.8		
	9400	SLOU	46	1719	1723	10	430.0			
	9285	ARCE	29	1720.9		40 D				
	2700	PENN	29	1721.8	1721.8	273	74.5	37.2		
	10700	PENN	29	1722.3	1722.3	118	73.4	18.5		
	2800	OTTA	29	1724		14	16.6	8.0		
	960	PENN	29	1725.7	1725.7	297	5.5	2.7		
	1415	SGMR	29	1731.6	1731.6	37.2	16.1	8.0		
	10700	PENN	20	1736.5	1800.4	63.6	39.2	23.4		
	9400	HUAN	20	1736	1814.2	62.7	37.4	19.5		
	2700	PENN	20	1738	1750.3	62.8	24.2	12.7		
	2700	PENN	3	1841.4	1844.9	9.6	13.0	5.4		
	2800	OTTA	20	1842	1845	13	4.0	1.8		
	18	MCMA	41	1933	1936	5			1	
	18	MCMA	41	1953	1956	5			1	
	18	MCMA	6	2011	2013	3			1	
	18	MCMA	6	2046	2047	2			1	
	245	SGMR	6	2116.5	2119	4.1	88.3	44.1		
	200	HIRA	45	2117	2117.4	1.2	145.0	50.0		
	200	HIRA	45	2118.8	2119.2	1.5	150.0	60.0		
	1420	BOUL	3	2119	2119.5	2	2.0	1.0		
	410	SGMR	6	2119	2119.2	2.8	.7	.3		
	100	HIRA	45	2119	2119.4	1.5	160.0	50.0		
	18	MCMA	41	2120	2123	4			2	
	18	MCMA	41	2141	2142	3			1	
	18	BOUL	48	2344	0001	9			3	
6	3750	TYKW	1	0035	0035.7	3	2.0	1.0		
	3750	TYKW	20	0322	0335	60	4.0	2.0		
	3750	TYKW	20	0443	0444	15	3.0	1.0		
	2000	TYKW	1	0443	0444	5	3.0	1.0		
	650	GORK	4	0443.6	0444.5	1.3	20.0			
	4995	CRON	3	0450	0451.5	3.5	6.0	2.0		
	200	HIRA	45	0635.5	0636.4	2	210.0	40.0		
	237	TRST	45	0901	0901.1	.2	38.0	7.0		
	9500	BERL	20	0902.5	0917	33	8.3			
	9285	ARCE	20	0902.9	0918	54.5				RECORD DIST
	4995	ATHN	20	0902.9	0907.5	24.8	9.1	3.0		
	3000	BERL	4	0902.5	0905.8	33	18 .0	3.7		
	2695	CRON	45	0902.5	0905	13	12.0	4.0		
	8800	MANI	2	0903.4	0905.9	9.5	9.2	2.3		
	8800	ATHN	20	0903.9	0912.9	26.1	6.1	2.0		
	4995	CRON	45	0903	0906	6	14.0	4.0		
	4995	MANI	4	0903.4	0905.6	5.4	20.3	5.8		
	2695	MANI	4	0903.4	0905.8	5.4	15.2	3.5		
	2695	ATHN	4	0903.5	0905.6	17.6	19.9	7.0		
	1500	BERL	3	0903.5	0904.1	3.5	8.5	1.2		
	1415	MANI	8	0903.8	0903.9	.3	14.0	4.3		
	1415	ATHN	46	0903.8	0904	17.3	12.0	2.9		
	2830	ARCE	21	0904	0921.6	31				RECORD DIST
	2830	ARCE	3	0904.8	0906.3	4				
	2950	GORK	3	0905 E	0906	12 E	26.0			
	2950	GORK	29	0909	0909	9 U	9.5			
	408	TRST	5	1019.3	1019.4	.3	16.0	4.0		
	2695	CANR	3	1020	1021	1.5	2.0	1.0		
	221	ABST	3	1030.2	1030.8	.8	38.0	6.0		
	1500	BERL	1	1035	1036.8	3	2.3	0.9		
	1420	CANR	3	1035.5	1037	3	2.0	1.0		
	2695	CANR	3	1037.5	1038.5	2.5	3.0	1.0		
	29	UPIC	45	1042	1058	22				
	2800	OTTA	21	1055	1140	105	4.2	2.1		
	29	UPIC	45	1120.5	1130	11.5				
	260	ONDR	45	1123.5	1132.5	12.5	25.0			
	237	TRST	42	1132.7	1132.8	3.7	91.0			
	210	IZMI	6	1132.2	1132.3	.6	360.0	300.0		
	2695	CANR	3	1135	1138	8.5	3.0	1.0		
	210	IZMI	6	1135.7	1135.8	.6	360.0	310.0		
	2800	OTTA	1	1154.5	1156	2.5	1.6	0.8		
	2695	CANR	3	1156	1157	2	3.0	1.0		
	18	MCMA	6	1157	1159	2			1	
	9500	BERL	22	1206.5	1217.6	29	12.0			
	4995	SGMR	20	1210.8	1213	14.5	16.7	8.0		
	4995	ATHN	20	1210.8	1212.9	13.9	12.6	4.2		
	3000	BERL	22	1210	1213	9	5.9			
	2800	OTTA	21	1210	1215	20	2.0	1.0		
	2695	CANR	3	1210	1214.5	10	6.0	2.0		
	536	ONDR	45	1210	1210.5	5	45.0			
	8800	SGMR	20	1211.3	1213	17.2	13.5	6.0		
	4995	CANR	21	1211.5	1213.5	20	16.0	4.0		
	15400	SGMR	4	1212.4	1216.4	8.6	12.9	5.0		
	8800	ATHN	20	1212.5	1212.7	12.6	8.5	2.1		
	2800	OTTA	1	1212.5	1213	3	4.4	1.5		
	2700	PENN	1	1212.7	1212.9	2	7.6	2.3		
	18	MCMA	41	1215	1220	6			1	
	18	MCMA	6	1259	1301	5			1	
	2800	OTTA	24	1300		30	3.0			
	260	ONDR	45	1310	1310	2	25.0			

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6	536	ONDR	5	1325	1325	.5	45.0			
	18	MCMA	41	1349	1352	7			1	
	260	ONDR	5	1352	1352	.5	25.0			
	234	POTS	5	1352.6	1352.6	.1	350.0	120.0		
	18	MCMA	42	1404	1409	44			1	
	260	ONDR	45	1419	1420	2	75.0			
	234	POTS	40	1419.6	1419.8	.7	350.0	15.0		
	8800	SGMR	2	1456.9	1457.6	8	8.6	2.0		
	4995	SGMR	2	1456.9	1457.6	3.1	9.1	3.0		
	2700	PENN	3	1456.7	1457.5	1.4	13.5	2.8		
	1415	SGMR	1	1456.9	1457.7	5.1	7.5	2.5		
	1415	ATHN	1	1456.7	1457.6	2.2	6.0	1.8		
	960	PENN	1	1456.8	1457.7	2.2	6.0	2.2		
	808	ONDR	45	1456.5	1457.5	2	70.0			
	536	ONDR	45	1456.5	1457.5	3.5	45.0			
	260	ONDR	45	1456.5	1456.5	2	230.0D			
	245	SGMR	7	1456.7	1457.1	4.2	350.0	35.0		
	225	HARS	5	1456.5	1457.5	1.5	140.0	30.0		
	8800	ATHN	1	1457.3	1457.8	1	4.2	2.1		
	4995	ATHN	1	1457.5	1457.6	1 U	5.3	2.1U		
	2800	OTTA	1	1457	1457.5	2	6.8	2.4		
	2695	SGMR	1	1457	1457.7	8.2	4.8	2.0		
	2695	ATHN	1	1457.2	1457.6	.9	4.8	1.2		
	606	SGMR	1	1457	1457.6	5.6	7.9	2.0		
	410	SGMR	6	1457	1457.1	1.6	13.0	3.0		
	1420	BOUL	3	1542.5	1544.5	3.5	2.0	1.0		
	2800	OTTA	21	1630	1915	310	2.4	1.2		
	2800	OTTA	20	1735	1737	10	1.2	0.6		
	2695	CANR	3	1736.5	1737.5	2.5	3.0	1.0		
	2800	OTTA	21	1800	1808	30	2.6	1.3		
	4995	CANR	3	1806	1807.5	3	9.0	3.0		
	2695	CANR	3	1808	1809.5	3	3.0	1.0		
	2800	OTTA	1	1821.5	1822	2	1.8	0.9		
	2800	OTTA	20	1950	1956	90	7.0	2.4		
	2700	PENN	20	1950.4	1955.6	61	10.0	3.0		
	2695	BOUL	45	1950	1955.5	15.5	8.0	3.0		
	1420	BOUL	3	1952	1955	12	3.0	1.0		
	410	SGMR	6	1955.8	2000.7	6.4	8.7	4.4		
	245	SGMR	6	1955	1958.4	8.3	29.7	14.9		
	245	BOUL	41	1955	1959	9			1	
	2695	PENT	20	2230	2440	200 D	4.6			
	208	VORO	42	2353	2355	23	32.0			
	245	BOUL	41	2355	2356	3			1	
7	1000	TYKW	1	0104.5	0105.8	4	9.0	3.0		
	3750	TYKW	1	0105	0106	2	1.0	0.5U		
	2000	TYKW	1	0105.3	0105.6	1	2.0	1.0		
	1420	BOUL	8	0105.5	0106	1.5	5.0	1.0		
	1420	CRON	8	0106.5	0107.5	3	7.0	2.0		
	1420	BOUL	8	0112	0113	1.5	7.0	2.0		
	1420	CRON	8	0113.5	0114	1.5	10.0	4.0		
	3750	TYKW	20	0404	0407	15	3.0	1.0		
	650	GORK		0405.1E	0405.5U	3.1	5.0			
	1420	CRON	45	0406	0408.5	2.5	3.0	1.0		
	950	GORK	1	0408	0408.1	.4	3.6	1.8		
	650	GORK	40	0416	0416.2	1.2	9.8	1.7		
	9400	TYKW	20	0430	0440	80	4.0	2.0		
	3750	TYKW	20	0430	0440	80	4.0	2.0		
	950	GORK	1	0446.7	0447.1	1.1	1.4	0.7		
	650	GORK	2	0446.4	0446.5	.8	11.4	2.3		
	200	HIRA	45	0454.8	0455.5	1	80.0	25.0		
	606	MANI	4	0507.9	0508.2	.4	10.9	2.1		
	200	GORK		0515.4	0519.3	4.1	300.0			
	606	MANI	4	0517.5	0518.2	1.4	16.6	2.1		
	225	HARS	45	0517.5	0518.5	2.5	100.0	35.0		
	200	HIRA	45	0517.7	0519.8	2.5	500.0	100.0		
	1415	MANI	4	0518.1	0518.2	.8	10.4	3.1		
	650	GORK	4	0518.6	0519.2	1.3	22.0	5.0		
	100	HIRA	45	0518	0518.7	2	190.0	50.0		
	100	GORK	6	0518.1	0519.1	1.5	180.0			
	2950	GORK	1	0519.2	0519.4	.4	3.8	1.8		
	2000	TYKW	1	0519	0519.3	1	5.0	2.0		
	1420	CRON	8	0519	0519.5	1	10.0	3.0		
	1000	TYKW	3	0519	0519.3	1	23.0	6.0		
	950	GORK	3	0519.1	0519.3	1	23.0	7.3		
	500	HIRA	5	0519	0519.4	1	80.0	15.0		
	650	GORK	40	0628.1	0628.2	6.8	7.3			
	650	GORK		0628.1	0633.5		36.0			
	536	ONDR	45	0631	0633	4.5	175.0			
	200	GORK	6	0631.6	0631.8	.3	12.0	6.0		
	1415	MANI	1	0634.8	0637.4	5.5	4.2	1.0		
	4995	CRON	45	0635.5	0637.5	15	18.0	4.0		
	4995	ATHN	20	0635.9	0637.2	17.2	14.3	4.1		
	3750	TYKW	45	0635	0637.3	25	12.0	3.0		
	2695	MANI	2	0635 U	0637.4U	5.3U	9.1U	2.3U		RFI
	2695	CRON	8	0635	0636	2.5	12.0	4.0		
	9750	IRKU	20	0636	0637.4	20	15.0	4.0		
	9750	IRKU		0636	0643		15.0			
	9400	TYKW	45	0636	0637.3	25	13.0	4.0		
	8800	ATHN	20	0636.7	0637.2	30	14.9	4.3		

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7	4995	MANI	3	0636.3	0637.4	3.9	16.5	3.0		
	2950	GORK	3	0636.8	0637.4	.9	16.3	6.2		
	2695	ATHN	20	0636.5	0637.2	20	9.9	3.1		
	1415	ATHN	1	0636.7	0637.2	1.6	3.2	.9		
	9100	GORK	1	0637.2	0637.5	1.2	13.6	6.8		
	8800	MANI	3	0637	0637.4	2.5	22.9	4.6		
	3100	CRIM	3	0637	0638	3	10.0	3.0		
	2000	TYKW	1	0637	0637.4	1	6.0	2.0		
	1420	CRON	3	0637	0637.5	2	4.0	1.0		
	9100	GORK	20	0642.5	0643	24	9.0	3.4		
	606	MANI	1	0643.4	0648.2	8.6	1.6	.5		
	650	GORK	40	0706.1	0707	1	5.3			
	9500	BERL	20	0829	0857.4	63	11.0			
	3000	BERL	22	0836.5	0838.6	62	8.4			
	2695	CRON	3	0836	0837	1.5	6.0	2.0		
	1500	BERL	4	0836.8	0838.5	4.7	4.2	1.4		
	3100	CRIM	1	0837	0838	50	5.0	2.0		
	2695	ATHN	1	0837.3	0838.1	4.7	8.7	2.5		
	1415	ATHN	1	0837	0838.4	3.7	4.4	1.3		
	1420	CRON	3	0838	0839	1.5	6.0	2.0		
	245	SGMR	44	0935 E	1524.3	851 D	43.9			
	260	ONDR	44	1010	1031	350	75.0			
	536	ONDR	5	1012	1012	.5	45.0			
	245	SGMR	6	1025.1	1030.8	11	103.7	51.9		
	200	GORK	41	1025.9	1026.1	1.7	70.0			
	200	GORK		1025.9	1027.1		170.0			
	410	SGMR	6	1026.3	1030.8	7.4	60.8	30.4		
	237	TRST	42	1026	1027	7	170.0			
	237	TRST		1026	1030.6		390.0			
	210	IZMI	6	1026.6	1027	.5	300.0	250.0		
	204	KIEV	41	1026	1030.6	7.2	75.0			
	536	ONDR	45	1028.5	1031	4.5	125.0			
	283	DWIN	45	1029	1030	4	60.0	22.0		
	210	IZMI	6	1029.8	1030.7	1.1	160.0	100.0		
	2695	SGMR	1	1030.8	1031.5	5	1.6	.8		
	1500	BERL	3	1030.5	1031	1.5	23.0	3.8		
	1415	SGMR	3	1030.6	1031	7.6	32.6	8.2		
	950	GORK	3	1030.5	1030.9U	1.6	49.0	11.0		
	808	ONDR	45	1030	1031	4.5	140.0			
	650	GORK	4	1030.4	1031.4	3.5	92.0	8.7		
	606	SGMR	4	1030.6	1031	3.2	87.8	35.1		
	510	POTS	45	1030 U	1030.5U	2.5	50.0	10.0		
	408	TRST	41	1030.2	1031	4.5	80.0			
	234	POTS	45	1030.6	1030.6	.6	200.0	6.0		
	221	ABST	3	1030	1030.8	1.5	57.0	8.0		
	200	GORK	41	1030	1030.2	1.4	170.0			
	200	GORK		1030	1030.6U		170.0D			
	113	POTS	45	1030.5	1030.8	.8	100.0	25.0		
	100	GORK	6	1030.6	1031.1	1.6	50.0	25.0		
	200	GORK	6	1040.4	1040.7	.6	90.0	45.0		
	606	SGMR	8	1047.3	1047.4	.3	81.7	32.7		
	536	ONDR	45	1047	1048	12.5	115.0			
	410	SGMR	6	1047.3	1047.5	.4	6.8	3.4		
	245	SGMR	6	1047.3	1047.4	.4	3.6	1.8		
	650	GORK	4	1051.9	1053.5	2	8.6	2.1		
	29	UPIC	45	1051	1052	4				
	408	TRST	41	1052.2	1053.4	3.6	47.0			
	200	GORK	41	1056.5	1056.8	3.1	80.0			
	200	GORK		1056.5	1059		100.0			
	650	GORK	1	1058.7	1059.4	1.3	1.4	0.7		
	408	TRST	41	1058.5	1059	1.5	62.0			
	237	TRST	41	1058.9	1059.2	.4	59.0			
	200	GORK	6	1104.9	1105.1	.4	50.0	25.0		
	237	TRST	45	1127.5	1127.6	.3	85.0	8.0		
	200	GORK	6	1127.6	1127.7	.6	100.0	50.0		
	9500	BERL	22	1206.5	1217.6	29	12.0			
	3000	BERL	22	1210	1213	9	5.9			
	4995	BOUL	8	1327.5	1328.5	2.5	14.0	5.0		
	8800	SGMR	1	1328.5	1328.8	2.2	9.5	5.0		
	8800	ATHN	3	1328.5	1328.8	.6	10.9	3.3		
	7000	SAOP	2	1328.5	1328.8	1.2	7.4	4.3		
	4995	SGMR	1	1328.5	1328.8	2.4	7.8	4.0		
	4995	ATHN	1	1328.4	1328.8	5	8.5	2.1		
	3100	CRIM	1	1328	1329	6	4.0	1.0		
	2830	ARCE	1	1328.9U	1329.2U	2.2U				
	2800	OTTA	1	1328.5	1329	4	3.6	1.2		
	2695	SGMR	1	1328.5	1328.9	4	3.2	1.5		
	2695	BOUL	3	1328.5	1329	1.5	4.0	1.0		
	2695	ATHN	1	1328.5	1328.8	1.1	2.4	.8		
	1415	SGMR	1	1328	1328.4	1.8	2.4	1.2		
	9285	ARCE	1	1329 U	1329.5U	1.5				
	7000	SAOP	29	1329.7		4.9				
	113	POTS	45	1346.2	1346.2	.1	100.0	25.0		
	29	UPIC	45	1432	1432	1.5				
	18	MCMA	6	1442	1443	3			1	
	2800	OTTA	1	1513	1513.5	1	1.0	0.5		
	29	UPIC	45	1532	1533.5	2.5				
	2800	OTTA	20	1755	1800	25	1.4	0.7		
	2800	OTTA	21	2000	2335	280 D	23.0			
	1415	SGMR	1	2001.1	2004.2	4.7	6.2	.5		

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	2695	SGMR	1	2002.1	2006.8	7.9U	3.8	.4U		
	1420	BOUL	45	2002	200415	3.5	3.0	1.0		
	2700	PENN		2004	2123.4		20.1			
	10700	PENN		2007.1	2130		11.0			
	2800	OTTA	20	2048	2125	75	8.2	4.6		
	18	MCMA	6	2129	2130	2			1	
	3750	TYKW	20	2220	2342	150	14.0	7.0		
	2000	TYKW	20	2230	2340	140	8.0	4.0		
	18	MCMA	6	2329	2330	2			1	
8	3750	TYKW	20	0110	0128	40	2.0	1.0		
	3750	TYKW	45	0200	0203.7	30	4.0	1.0		
	3750	TYKW	20	0318	0342	60	5.0	2.0		
	200	HIRA	45	0537.2	0538.7	2	480.0	90.0		
	100	GORK	6	0537.9	0538.5U	1.3	250.0			
	950	GORK	40	0538	0538.3	2.3	4.5			
	650	GORK	40	0538	0538.7	1.5	6.1			
	237	TRST	45	0538	0538.3	1.7	240.0	23.0		
	100	HIRA	45	0538	0538.4	2	160.0	50.0		
	237	TRST	41	0605.8	0606.2	.9	510.0			
	200	HIRA	45	0605.9	0606.5	1	520.0	150.0		
	200	GORK	6	0605.6	0606.2	.7	200.0	100.0		
	100	HIRA	45	0605.7	0606.4	1.2	170.0	60.0		
	29	UPIC	45	0606	0606.5	1.5				
	210	IZMI	6	0742.2	0742.3	.2	120.0	60.0		
	2695	CANR	3	0824.5	0827	3	3.0	1.0		
	1420	CANR	3	0824.5	0825.5	2	3.0	1.0		
	9100	GORK	1	0929.3	0930.7	2.1	4.6	2.3		
	408	TRST	41	0934.9	0935	1.4	25.0			
	650	GORK	3	0936.7	0936.8	.2	10.8	5.4		
	200	GORK	6	0941.2	0941.3	.4	70.0	35.0		
	536	ONDR	5	0954.5	0954.5	.5	50.0			
	260	ONDR	45	1020	1036.5	40	25.0			
	7000	SAOP	22	1716.5		18.6	6.2			
	410	SGMR	6	2236.6	2236.9	.6	15.2	5.1		
	245	SGMR	6	2236.4	2236.8	1.4	191.0	63.0		
9	4995	MANI	4	0435.4	0437	2.6	10.2	2.9		
	3750	TYKW	3	0435	0437	15	13.0	3.0		
	2695	MANI	2	0435.4	0437.1	2.6	5.5	2.2		
	2000	TYKW	1	0435	0437	4	2.0	1.0		
	650	GORK	1	0519.6	0519.7	.3	3.7	1.8		
	100	GORK	44	0627		93 D		10.0		
	3750	TYKW	20	0630	0715	90	5.0	2.0		
	2000	TYKW	20	0640	0710	70	5.0	2.0		
	9400	TYKW	20	0650	0715	60	6.0	3.0		
	18	MCMA	6	1113	1115	2			1	
	18	MCMA	6	1202	1205	5			1	
	410	SGMR	6	1912.7	1913	2.3	1.9	1.0		
	245	SGMR	6	1912.7	1913	2.5	1.8	1.0		
	1415	SGMR	2	1913.1	1913.2	3	3.8	1.0		
	606	SGMR	2	1913.1	1913.2	2.9	5.0	1.5		
	4995	BOUL	3	2225	2227.5	4	11.0	4.0		
	18	MCMA	6	2327	2329	4			1	
10	3750	TYKW	1	0023	0025.4	10	3.0	1.0		
	2800	OTTA	1	0025	0025.5	4	.8	0.4		
	536	ONDR	45	0615.5	0615.5	.5	35.0			
	260	ONDR	45	0615.5	0616	1.5	15.0			
	808	ONDR	45	0616.5	0616.5	1.5	60.0			
	18	MCMA	6	1240	1241	3			1	
	18	MCMA	6	1459	1500	2			1	
	2800	OTTA	20	1538	1545	25	1.6	0.8		
	2800	OTTA	26	1630		135	3.2			
	2800	OTTA	20	1630	1715	135	4.4	2.2		
	4995	BOUL	8	1936	1936.5	1.5	20.0	5.0		
	2695	BOUL	8	1936.5	1937	1.5	15.0	6.0		
11	208	VORO	6	0039	0040	2	690.0	460.0		
	29	UPIC	45	0901.5	0902.5	1.5				
	18	MCMA	6	1117	1119	3			1	
	18	MCMA	6	1133	1135	3			2	
	18	MCMA	42	1415	1416	3			1	
	7000	SAOP	8	1424.6	1424.9	.7	4.1	2.0		
	18	MCMA	6	1429	1431	3			2	
	18	MCMA	41	1445	1449	9			2	
	18	MCMA	42	1750	1752	4			1	
	18	MCMA	42	1758	1800	5			1	
	18	MCMA	6	1806	1808	4			1	
	18	MCMA	6	2002	2003	2			1	
	18	MCMA	41	2013	2016	4			1	
	18	MCMA	6	2146	2149	3			1	
12	2800	OTTA	20	1200		190	1.2	0.8		
	18	MCMA	6	1311	1313	2			2	
	225	HARS	5	1519.5	1520	1.5	90.0	30.0		
13	204	KIEV	42	0720 E		480 D	12.0	5.0		
	18	MCMA	6	1417	1418	2			1	
	2800	OTTA	21	2010	2510	335 D	11.0			

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MAY 1973	FREQUENCY STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} MEAN	INT	REMARKS
	208 VORO	44	2100	2237	115	15.0	10.0		
	200 HIRA	27	2115	2240	110	25.0	10.0		
	100 HIRA	27	2147	2259	123	70.0	20.0		
	2800 OTTA	1	2252.2	2252.9	3	1.6	1.0		
	1415 MANI	2	2252.4	2252.9	1.7	6.7	2.9		
	606 MANI	1	2252.4	2252.6	2.1	4.6	1.7		
	2695 BOUL	3	2253	2253.5	2	3.0	1.0		
	1420 BOUL	45	2352.5	2353.5	1.5	5.0	2.0		
14	100 GORK	44	0254		486		5.0		
	650 GORK	20	0300 E	0304.9	142	20.0U			
	100 HIRA	45	0325	0325.2	1	120.0	30.0		
	808 ONDR	45	0649.5	0649.5	.5	70.0			
	536 ONDR	45	0649.5	0649.5	.5	50.0			
	29 UPIC	45	0729.5	0731	10				
	260 ONDR	45	0810	0810	10.5	35.0			
	260 ONDR	45	0833	0834.5	3	15.0			
	260 ONDR	45	0934	0934	1.5	20.0			
	29 UPIC	45	0955	0955.5	1				
	260 ONDR	45	1050	1050.5	1.5	15.0			
	200 GORK	6	1104.2	1104.8	1.7	50.0	25.0		
	650 GORK	1	1113.2	1113.7	1	3.0	1.5		
	18 MCMA	6	1207	1208	2			1	
	2950 GORK	1	1251.8	1252.2	1.8	2.9	1.4		
	2800 OTTA	1	1251.5	1252	2	2.4	1.2		
	2695 CANR	3	1252	1253	2.5	4.0	1.0		
	2800 OTTA	22	1420	1458	130	8.2	2.8		
	3000 BERL	23	1422	1444.8	65	7.2			
	2700 PENN	20	1423.8	1438.8	64.3	13.7	6.4		
	2695 ATHN	20	1425.6	1438.3	88.4	9.6	2.4		
	1500 BERL	23	1427.5	1433.5	46	2.9			
	2695 SGMR	20	1429.8	1438.8	63.6	7.2	3.6		
	1415 SGMR	20	1429.3	1438.7	33.8	3.8	1.9		
	1415 ATHN	20	1429.3	1438.8	50	3.7	1.2		
	1420 CANR	45	1430	1439	14	4.0	1.0		
	2695 CANR	45	1431.5	1439	33.5	6.0	2.0		
	3000 BERL	1	1437	1439	4	9.0			
	2695 BOUL	3	1437.5	1439	3	3.0	1.0		
	1500 BERL	1	1438.5	1438.7	.5	5.6			
	9500 BERL	20	1440	1501.5	45	6.3			
	8800 SGMR	3	1551.9	1552.1	.9	21.5	8.6		
	2800 OTTA	20	1700	1704	13	1.2	0.6		
	245 SGMR	43	1735.9	1739.2	377.1D	27.5			
	2800 OTTA	21	1840	1850	30	1.6	0.8		
	2800 OTTA	1	1856	1856.5	3	1.4	0.7		
	606 SGMR	3	2341.7	2342.4	.8	40.1	13.4		
	410 SGMR	6	2341.6	2342.4	1	17.5	5.8		
	245 SGMR	6	2341.7	2341.8	.9	6.1	2.0		
15	9100 GORK	41	0306.3	0315.2	14.1	5.0			
	9100 GORK		0306.3	0320		6.5			
	9100 GORK	20	0448.2	0451	8.3	7.7	3.0		
	29 UPIC	45	0601	0602	1.5				
	315 DWIN	45	0803	0804	2	50.0	20.0		
	260 ONDR	45	0805.5	0806	3	70.0			
	221 ABST	1	0805.5	0806	.8	85.0			
	204 KIEV	6	0805.7	0806	2	90.0			
	200 HIRA	45	0805.9	0806.4	2	400.0	50.0		
	200 GORK	6	0806 E	0806.4	1	150.0D			
	9100 GORK	1	0915.6	0917.3	2.4	10.0	5.0		
	260 ONDR	41	0915	1435	405	45.0			
	9100 GORK	1	0922	0922.5	2.3	5.0	2.5		
	2800 OTTA	20	1135	1142	20	2.4	1.2		
	18 MCMA	6	1240	1241	2			1	
	2800 OTTA	20	1800	1807	25	1.2	0.6		
	7000 SAOP	8	1804.8	1805	.4	5.4	2.9		
	2800 OTTA	20	1910	1920	30	1.6	0.8		
16	1420 CRON	3	0431.5	0432.3	1.5	2.0	1.0		
	9400 TYKW	3	0452	0454	25	12.0	4.0		
	4995 CRON	45	0452.5	0455	11.5	18.0	4.0		
	4995 MANI	4	0452.8	0455.2	20.1	26.4	9.6		
	3750 TYKW	45	0452	0455.2	8	25.0	9.0		
	9100 GORK	1	0453.9	0454.4	2.9	8.0	4.0		
	8800 MANI	4	0453	0455.2	6	11.0	4.4		
	4995 ATHN	4	0453	0455.7	6.4	27.5	8.2		
	2950 GORK	45	0453.5	0455.2	5.9	21.6	8.0		
	2950 GORK		0453.5	0456.1		18.8			
	2695 MANI	4	0453	0456	10.6	16.3	5.1		
	2695 CRON	45	0453	0500	12	16.0	4.0		
	2695 ATHN	1	0454.6	0455.9	2.7	6.0	2.4		
	2000 TYKW	45	0454	0456	6	15.0	6.0		
	1420 CRON	45	0454	0456	7	39.0	15.0		
	1415 MANI	40	0454.3	0455.8	5.7	53.0	9.2		
	1415 ATHN	4	0454.4	0455.6	5.2	38.4	11.8		
	1000 TYKW	45	0454.5	0455.9	7	60.0	14.0		
	650 GORK	46	0454.5	0455.2	6.2	9.5			
	650 GORK		0454.5	0458.2		101.0			
	606 MANI	41	0454.3	0458.1	10.4	80.0	3.2		
	200 HIRA	45	0454.6	0455	1.2	150.0	40.0		

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16	200	GORK	41	0454.4	0455.	4.2	150.0			
	200	GORK		0454.4	0458.1		60.0			
	100	GORK	6	0454.6	0454.8	5.6	20.0			
	100	GORK		0454.6	0459.8		10.0			
	3750	TYKW	29	0500		20	5.0	2.0		
	2000	TYKW	29	0500		20	2.0	1.0		
	950	GORK	46	0654.5	0656.2	4.4	49.0			
	950	GORK		0654.5	0655.8		60.0			
	950	GORK		0654.5	0656.9		50.0			
	950	GORK		0654.5	0658		34.0			
	260	ONDR	41	0750	1126	350	50.0			
	283	DWIN	44	0800		460		19.0		
	510	POTS	40	1113.5U	1114 U	1 U	30.0	5.0		
	410	SGMR	6	1114.8	1116.3	1.7	1.2	.3		
	245	SGMR	6	1114.4	1116.2	2	43.4	11.0		
	210	IZMI	41	1115.3	1116	1.3	175.0			
	113	POTS	45	1116	1116.2	.5	200.0	40.0		
	29	UPIC	45	1116	1116	1				
	23	POTS	45	1116.2	1116.4	.4	3000.0	750.0		
	18	MCMA	6	1224	1225	2			1	
	7000	SAOP	8	1815.5	1815.9	.9	5.9	2.2		
	7000	SAOP	2	1849.6	1851.5	1.7	3.3	1.1		
	7000	SAOP	8	1854.1	1854.6	.9	3.3	1.1		
17	204	KIEV	44	0700 E		480 D	18.0	8.0		
	4995	ATHN	20	0701 U	0704.2	15 U	6.0	2.0U		
	2695	ATHN	20	0701 U	0704.2	16 U	9.8	2.5U		
	1500	BERL	46	0701	0704.4	49	130.0			
	1415	ATHN	46	0701 U	0704.3	19 U	136.0	27.1U		
	260	ONDR	45	0701.5	0708	10	25.0			
	3750	TYKW	45	0702	0704.3	40	9.0	3.0		
	3000	BERL	3	0702	0704.4	45	8.2			
	2695	CRON	8	0702.5	0704	2.5	12.0	4.0		
	2000	TYKW	45	0702	0704.6	11	96.0	6.0		
	1420	CRON	45	0702.5	0704.5	2.5	142.0	55.0		
	1420	CANR	45	0702.5	0705.5	3	94.0	38.0		
	9500	BERL	20	0703	0715	42	8.2			
	4995	MANI	1	0703.4	0704.3	13.1	6.4	1.3		
	3100	CRIM	3	0703	0705	31	10.0	3.0		
	2695	MANI	3	0703.4	0704.4	9.8	10.4	3.1		
	2695	CANR	45	0703.5	0705	2	13.0	4.0		
	1415	MANI	40	0703.3	0704.5	8.3	118.0	20.4		
	1000	TYKW	45	0703	0703.9	9	67.0	5.0		
	930	BORD	45	0703	0704	8	95.0	3.0		
	808	ONDR	45	0703.5	0707	5.5	55.0			
	606	MANI	4	0703.3	0707.9	8.1	10.6	4.1		
	550	KIEV	6	0703.2	0708.1	7	36.0			
	536	ONDR	45	0704.5	0707.5	5.5	45.0			
	1420	CRON	45	0709.5	0710.5	2	19.0	7.0		
	1420	CANR	45	0709.5	0710.5	1.5	12.0	5.0		
	315	DWIN	45	0901	0905.5	1	51.0	19.0		
	260	ONDR	45	0903	0904	2	85.0			
	221	ABST	1	0903.2	0903.5	.5	47.0			
	204	KIEV	6	0903.2	0903.6	1	79.0			
	200	HIRA	45	0903.5	0903.8	.5	150.0	30.0		
	260	ONDR	45	1017.5	1019.5	3	35.0			
	204	KIEV	41	1018	1019	2	98.0			
	315	DWIN	45	1019	1020	2	14.0	20.0		
	210	IZMI	6	1019	1019.5	1	250.0	175.0		
	113	POTS	45	1021.2	1021.4	.5	280.0	50.0		
	3000	BERL	1	1045.7	1045.9	1.3	3.4	1.2		
	1500	BERL	1	1045.8	1046.1	2.7	1.3			
	550	KIEV	6	1045.5	1046	.7	36.0			
	536	ONDR	45	1045.5	1046	1.5	40.0			
	2800	OTTA	1	1046	1046.1	2	3.4	1.2		
	2695	CANR	8	1046	1046.5	1	4.0	1.0		
	408	TRST	45	1046.7	1047	.6	25.0	6.0		
	260	ONDR	45	1123	1127	16	50.0			
	1500	BERL	1	1156.2	1156.4	.5	3.4			
	930	BORD	45	1156	1156.2	1	35.0	2.0		
	2800	OTTA	1	1208.2	1208.5	1	1.6	0.6		
	408	TRST	45	1209.4	1209.6	.3	32.0	10.0		
	930	BORD	40	1223	1230.5	9	21.0	2.0		
	1500	BERL	46	1227	1228.5	4.5	8.7	2.7		
	1420	CANR	45	1227.5	1228.5	4	8.0	2.0		
	1415	SGMR	46	1227.2	1228.4	4.1	10.9	2.0		
	1415	SGMR	46		1230.1		8.8			
	606	SGMR	1	1230.1	1230.1	.1	1.3	.2		
	3000	BERL	20	1236	1250.4	61	2.5			
	260	ONDR	45	1241	1242.5	2	30.0			
	1500	BERL	46	1249.5	1252.5	4	4.4	1.0		
	1415	SGMR	2	1249	1252.6	6.6	6.9	.7		
	930	BORD	45	1249	1252.4	4	29.0	3.0		
	808	ONDR	45	1249	1250	3.5	60.0			
	1420	CANR	45	1250	1253	4	5.0	1.0		
	1420	BOUL	8	1250.5	1251	1	3.0	1.0		
	1420	BOUL	8	1252	1253	2	6.0	2.0		
	1500	BERL	1	1313.9	1314.2	.7	1.7			
	1500	BERL	4	1315.5	1316.3	1.5	5.4	1.7		
	1420	CANR	3	1315	1316	1.5	5.0	2.0		

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17	1420	BOUL	45	1315	1316.5	2	6.0	2.0		
	1500	BERL	1	1322.2	1322.5	.5	3.0			
	1500	BERL	1	1330	1330.1	.7	2.0			
	930	BORD	40	1330	1330.5	4	49.0	2.0		
	1500	BERL	1	1332	1332.7	1.7	1.7			
	1420	BOUL	3	1332.5	1333	1.5	1.0			
	9285	ARCE	23	1339.9	1356.9	50				
	8800	ATHN	4	1342.9	1344.5	6.3	44.5	8.3		
	2695	ATHN	1	1342.6	1344.7	4.2	5.0	1.3		
	9500	BERL	4	1343.3	1343.7	1.7	16.0	6.9		
	9400	HUAN	1	1343.4	1343.9	1.9	16.9	27.9		
	9285	ARCE	4	1343.5	1344.4	1.7				
	8800	SGMR	4	1343.4	1344.5	3.7	23.3	5.8		
	7000	SAOP	4	1343.6	1344.5	2	20.8	9.9		
	4995	SGMR	4	1343.4	1344.4	2.6	14.8	3.7		
	4995	CANR	3	1343	1344.5	1.5	13.0	5.0		
	4995	BOUL	3	1343	1344	1.5	16.0	5.0		
	3000	BERL	2	1343.5	1344.7	1.5	3.8	1.7		
	2800	OTTA	21	1343	1400	115	5.4	2.0		
	2800	OTTA	2	1343.5	1344.5	2	3.4	1.7		
	2695	SGMR	2	1343.6	1344.5	2.6	3.8	1.0		
	410	SGMR	6	1343.6	1344	2.4	10.1	2.2		
	260	ONDR	45	1343	1343.5	2.5	165.0			
	245	SGMR	6	1343.5	1344	1.7	237.7	59.4		
	234	POTS	45	1343.6	1344	.8	250.0	40.0		
	225	HARS	45	1343.5	1343	2	200.0	65.0		
	204	KIEV	6	1343.2	1343.7	2	158.0			
	4995	BOUL	45	1344	1346.5	4.5	34.0	9.0		
	2695	CANR	3	1344	1345	1.5	3.0	1.0		
	2695	BOUL	3	1344	1345	2	4.0	1.0		
	930	BORD	40	1346	1348.3	4	108.0	2.0		
	3000	BERL	46	1348	1356.5	40	37.0	4.3		
	1500	BERL	1	1348	1348.4	.5	1.7			
	808	ONDR	45	1348	1403	17	90.0			
	9500	BERL	20	1351 U	1358.2	19	11.0			
	4995	CANR	45	1353.5	1356	4.5	24.0	6.0		
	10700	PENN	20	1354.9	1357.2	17.3	12.6	6.3		
	9400	HUAN	20	1354.7	1356.3	5.8	10.1	5.7		
	8800	SGMR	22	1354.5	1356.7	12.6	11.4	2.9		
	8800	ATHN	4	1354.5	1356.9	12.4	22.2	5.6		
	7000	SAOP	22	1354.2		17.6	16.4			
	4995	SGMR	46	1354.2	1355.2	13	16.0	7.8		
	4995	SGMR	46		1356.6		31.2			
	4995	ATHN	4	1354.5	1356 U	12.5	22.9	6.5		
	2800	OTTA	4	1354	1355	4.5	18.6	4.8		
	2700	PENN		1354.5	1356.7	18.5	39.1	6.8		
	2695	SGMR	46	1354.2	1355.2	12.8	19.7	14.4		
	2695	SGMR	46		1356.6		57.6			
	2695	CANR	45	1354	1357	13	53.0	13.0		
	2695	ATHN	40	1354.8	1356.6	12.2	44.1	11.3		
	1500	BERL	46	1354.3	1355.5	51	12.0	2.7		
	1420	CANR	45	1354.5	1356.5	14.5	11.0	3.0		
	1415	SGMR	40	1354.8	1356.2	12.2	12.8	3.2		
	1415	ATHN	40	1354.5	1356.1	12.7	11.4	2.7		
	536	ONDR	45	1354	1355	8.5	35.0			
	204	KIEV	6	1354.9	1355	2.5	82.0			
	2695	BOUL	45	1355	1357	12.5	56.0	9.0		
	1420	BOUL	45	1355	1356.5	4	11.0	3.0		
	930	BORD	45	1355	1355.1	2	16.0	2.0		
	606	SGMR	40	1355	1358.2	7.2	5.8	1.4		
	410	SGMR	6	1355	1359.3	13.3	53.0	13.3		
	260	ONDR	45	1355	1355	12	115.0			
	245	SGMR	6	1355	1355.3	13	141.8	35.4		
	234	POTS	45	1355.1	1355.2	.4	150.0	30.0		
	113	POTS	45	1355	1355.2	1.6	900.0	180.0		
	1420	BOUL	45	1403	1403.5	5	3.0	1.0		
	930	BORD	45	1403	1403.4	2	38.0	3.0		
	245	SGMR	43	1408	2200.6	588 D	28.6			
	1420	CANR	8	1526	1526.5	1.5	5.0	2.0		
	1420	BOUL	45	1526	1527	1.5	5.0	2.0		
	2800	OTTA	20	1548	1633	70	1.8	0.8		
	2695	BOUL	3	1632.5	1633	2.5	3.0	1.0		
	1420	CANR	45	1748.5	1749.5	2	4.0	1.0		
	1415	SGMR	2	1748.9	1749.5	2.9	7.1	3.0		
	930	BORD	45	1748	1749.5	3	92.0	4.0		
	1420	BOUL	3	1749	1750	2.5	3.0	1.0		
	2695	SGMR	1	1823.8	1826.3	7.4	2.5	1.2		
	8800	SGMR	4	1825	1825.2	.9	11.4	2.0		
	1420	CANR	3	1825.5	1826.5	2.5	3.0	1.0		
	1420	BOUL	3	1825.5	1826.5	2	3.0	1.0		
	1415	SGMR	2	1825.3	1826.1	7	6.7	3.3		
	930	BORD	45	1825	1825.2	5	76.0	5.0		
	410	SGMR	6	1825.3	1827	2.1	2.9	1.5		
	606	SGMR	4	1826.9	1827	.3	28.7	11.5		
	7000	SAOP	42	1903.5	1905.9	16.9	282.7			
	7000	SADP	46	1903.5	1905.9	7.1	282.7			
	4995	CANR	45	1906.5	1909	12	164.0	69.0		
	4995	BOUL	45	1906.5	1909.5	16	293.0	69.0		
	35000	SGMR	4	1907.8	1908.8	8	388.0	155.2		
	15400	SGMR	47	1907.6	1908.2	25.6	710.0	396.0		

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MAY 1973	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	REMARKS
17	15400	SGMR	47		1908.5		990.0			
	10700	PENN	47	1907.5	1908.9	8.9	821.0	162.0		
	9400	HUAN	45	1907.3	1908.2	5.7	412.4	266.7		
	9400	HUAN		1907.3	1908.7		799.4			
	9400	HUAN		1907.3	1910.7		241.7			
	9400	HUAN		1907.3	1912.2		267.0			
	9400	SLOU	4	1907	1908.2	7.5	1220.0			
	8800	SGMR	47	1907.3	1908.8	25.3	835.0	334.0		
	8800	SGMR	47		1912.1		270.0			
	4995	SGMR	46	1907.4	1909.1	25.1	250.0	100.0		
	4995	SGMR	46		1912.2		170.0			
	2800	OTTA	46	1907	1909	13	55.0	19.0		
	2800	OTTA		1907	1909	3	55.0			
	2700	PENN	45	1907.2	1912.4	11.4	102.0	36.9		
	2695	SGMR	46	1907.5	1909	36.4	52.6	26.6		
	2695	SGMR	46		1912.4		64.0			
	2695	BOUL	45	1907.5	1909.5	12.5	58.0	15.0		
	1420	BOUL	45	1907.5	1909.5	12.5	28.0	6.0		
	606	SGMR	4	1907.3	1909	24.6	27.5	11.0		
	410	SGMR	6	1907.4	1908.8	12.8	87.7	35.1		
	245	SGMR	49	1907.4	1908.6	11.9	3800.0	1520.0		
	225	HARS	45	1907	1908	3	300.0	90.0		
	37000	SLOU	4	1908	1908.6	1	440.0			
	19000	SLOU	4	1908	1908.8	1.5	780.0			
	2695	CANR	45	1908	1909.5	7.5	50.0	14.0		
	1420	CANR	45	1908	1909.5	5.5	28.0	7.0		
	1415	SGMR	4	1908.1	1909.5	14.8	44.1	17.6		
	960	PENN	3	1908.1	1909.2	3.9	13.2	3.2		
	7000	SAOP	29	1910.6		3.5				
	2800	OTTA		1910	1912.2	10	54.6			
	9400	HUAN	29	1913	1913	17.4	81.1	78.2		
	7000	SAOP	4	1914.1	1914.9	1.1	13.5	5.6		
	960	PENN	45	1914.4	1916.3	3.8	106.0	3.9		
	7000	SAOP	29	1915.2		4.9				
	10700	PENN	29	1916.4	1916.4	23.8	16.2	8.1		
	2700	PENN	29	1918.6	1918.6	23.6	7.5	3.8		
	208	VORO	44	2100	2250	240	13.0	8.0		
	2800	OTTA	24	2230		25	1.2			
	4995	BOUL	8	2256.5	2257.5	1.5	16.0	5.0		
	9400	TYKW	1	2257.5	2258	1.5	5.0	2.0		
	8800	SGMR	1	2257.2	2258.2	1.9	8.8	4.4		
	8800	MANI	1	2257.6	2257.9	1.2	5.3	1.8		
	4995	SGMR	3	2257.6	2258	1.4	10.4	4.7		
	4995	MANI	3	2257.6	2257.8	1.6	11.9	3.6		
	3750	TYKW	1	2257	2258	3	9.0	3.0		
	2800	OTTA	1	2257	2258	2.5	4.4	1.5		
	2695	SGMR	1	2257.7	2258	1.8	5.1	2.6		
	2695	MANI	1	2257.6	2258	1.7	3.2	1.1		
	1420	BOUL	3	2257.5	2258	1	2.0	1.0		
	1415	SGMR	1	2257.9	2258	.9	1.3	.6		
	1415	MANI	1	2257.6	2258	1.2	.9	.5		
	1000	TYKW	1	2257	2258	2	2.0	1.0		
	606	MANI	1	2257.7	2258	1.8	3.5	1.2		
	606	SGMR	1	2257.4	2257.8	1.5	4.9	2.5		
	2695	BOUL	3	2258	2258.5	1.3	6.0	2.0		
18	1000	TYKW	45	0016	0016.5	2	18.0	5.0		
	1420	CRON	3	0111.5	0112	1.5	3.0	1.0		
	1000	TYKW	45	0244	0244.8	4	5.0	1.0		
	100	GORK	44	0300 E		460		5.0		
	204	KIEV	42	0730		200	15.0	6.0		
	3750	TYKW	1	0305	0307	8	1.0	0.5U		
	2000	TYKW	1	0305	0307	5	1.0	0.5U		
	1420	CRON	8	0306.5	0307	1	5.0	2.0		
	1000	TYKW	45	0306.8	0309.4	4	11.0	2.0		
	3750	TYKW	45	0325	0353.2	80	17.0	4.0		
	2000	TYKW	45	0344	0353.3	25	3.0	1.0		
	1420	CRON	45	0344	0345.5	2	10.0	3.0		
	1000	TYKW	45	0344	0346.5	25	91.0	5.0		
	950	GORK	46	0344.2		6.4	160.0D			
	950	GORK		0344.2	0348.7		271.0			
	606	MANI	40	0344	0346.5	17.7	72.0	9.0		
	9400	TYKW	45	0345	0353.3	20	15.0	3.0		
	2695	MANI	20	0345.4	0353.2	12	5.3	1.1		
	1415	MANI	2	0345	0346	1.8	9.7	1.9		
	650	GORK	46	0345	0346.5	5	140.0			
	650	GORK		0345	0348		86.0			
	4995	MANI	4	0347.7	0353.2	12.9	25.6	6.8		
	4995	CRON	45	0348.5	0352.5	5	21.0	6.0		
	9100	GORK	1	0352.6	0353.2	1.3	13.8			
	1420	CRON	3	0352	0353	1.5	11.0	4.0		
	950	GORK	41	0353.1	0353.5	5.5	12.3			
	950	GORK		0353.1	0356.1		3.8			
	950	GORK		0353.1	0358.1		3.0			
	100	GORK	20	0353.2	0353.5	.5	200.0	90.0		
	1420	CRON	8	0355	0356	1.5	4.0	1.0		
	650	GORK	40	0356	0358.1	2.7	8.6			
	950	GORK	41	0422.2	0443.2	6.5	50.0D			
	950	GORK		0422.2	0444.8		162.0			
	1000	TYKW	40	0427.5	0430	13	8.0	1.0		

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MAY 1973	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	REMARKS
18	950	GORK	46	0427.5	0428	3	12.9			
	950	GORK		0427.5	0430.2		33.0			
	650	GORK	3	0427.9	0428.2	.5	8.7	3.8		
	950	GORK	41	0433.2	0434.3	7.8	3.4			
	950	GORK		0433.2	0436.6		5.9			
	950	GORK		0433.2	0439.8		2.7			
	1420	CRON	3	0456.5	0457	2	6.0	2.0		
	808	ONDR	45	0456	0459	8.5	185.0			
	9400	TYKW	3	0457.5	0459	5	6.0	2.0		
	9100	GORK	1	0457.9	0458.1	3.5	7.9			
	8800	MANI	1	0457.7	0458.2	3.7	7.6	1.9		
	4995	CRON	3	0457	0457.5	3.5	13.0	4.0		
	4995	MANI	3	0457.7	0458.2	7.1	20.2	8.1		
	3750	TYKW	3	0457.7	0458.2	5	14.0	6.0		
	2695	MANI	3	0457.6	0458.7	4.9	12.6	3.2		
	2695	CRON	3	0457.5	0458.5	1.5	8.0	3.0		
	2000	TYKW	1	0457.7	0458.6	5	5.0	2.0		
	1415	MANI	1	0457.5	0457.8	2.8	4.9	1.0		
	1000	TYKW	45	0457	0459.7	7	51.0	5.0		
	650	GORK	40	0457.6	0458	4.3	17.0	3.3		
	606	MANI	4	0457.4	0458	4.8	18.0	2.4		
	260	ONDR	45	0457	0458	3	20.0			
	200	GORK	6	0457.7	0458.1	1	20.0	10.0		
	536	ONDR	45	0458	0458	1.5	40.0			
	100	GORK	6	0458	0458.2	.5	300.0	150.0		
	260	ONDR	45	0517.5	0518.5	1.5	20.0			
	100	GORK	41	0522.3	0522.5	24.5	300.0			
	100	GORK		0522.3	0536.5		300.0			
	100	GORK		0522.3	0541.1		200.0			
	9100	GORK	3	0545.2	0545.6	2.2	4.5			
	1000	TYKW	40	0553	0554.3	5	8.0	1.0		
	950	GORK	40	0553	0554.4	6.1	117.0			
	9100	GORK	20	0610.6	0627.6	43.2	18.0	6.8		
	260	ONDR	45	0612.5	0613	23	35.0			
	2695	CRON	8	0625	0626.5	2	10.0	4.0		
	8800	ATHN	1	0626.9	0627.6	4.3	5.7	1.9		
	4995	CRON	8	0626.5	0627	2	15.0	5.0		
	4995	MANI	3	0626.7	0627.7	6	21.6	6.8		
	2695	MANI	3	0626.7	0627.6	4.1	12.6	4.2		
	2695	ATHN	3	0626.6	0627.6	3.9	17.1	3.7		
	1420	CRON	3	0626	0627.5	2	16.0	4.0		
	1415	MANI	4	0626.7	0628	4.1	15.5	4.9		
	1415	ATHN	4	0626.6	0627.9	6.6	15.2	3.3		
	950	GORK	46	0626.9	0627.7	6.2	31.0			
	950	GORK		0626.9	0629.1		55.0U			
	950	GORK		0626.9	0630.6		15.0U			
	808	ONDR	45	0626.5	0629.5	6	160.0			
	650	GORK	40	0626.5	0627.6	5	15.5			
	650	GORK		0626.5	0629.1		17.0			
	606	MANI	2	0626.7	0627.7	5.3	10.8	3.0		
	2000	TYKW	1	0627	0627.7	3	7.0	2.0		
	200	GORK	6	0627.4	0627.9	1	20.0	10.0		
	100	GORK	6	0627.5	0627.9	.6	300.0	150.0		
	1000	TYKW	45	0628.7E	0630.7	4 D	36.0	7.0		
	1000	TYKW	1	0637.4	0637.7	.7	1.0	0.5		
	536	ONDR	45	0646.5	0647.5	4	40.0			
	100	GORK	6	0733.3	0733.6	.5	300.0			
	4995	CRON	3	0759	0800	2.5	7.0	2.0		
	4995	CANR	3	0759	0759.5	4	14.0	4.0		
	4995	MANI	1	0759.9	0800.5	2.2	4.1	1.4		
	4995	ATHN	1	0759 U	0800.7	2 U	6.1	2.0U		
	2695	MANI	1	0759.9	0801	3.1	3.2	1.1		
	2695	CRON	3	0759.5	0800.5	2.5	6.0	2.0		
	2695	ATHN	1	0759.9	0801.6	4	4.9	2.4		
	2695	CANR	3	0800	0801.5	4.5	5.0	1.0		
	200	GORK	41	0823.3	0823.7	12	70.0			
	200	GORK		0823.3	0825.3		25.0			
	200	GORK		0823.3	0828.7		30.0			
	200	GORK		0823.3	0834.8		30.0			
	315	DWIN	45	0914	0914.5	1	50.0	20.0		
	650	GORK	3	1022	1022.1	.3	6.8	2.4		
	100	GORK	6	1042.2	1041.1	.9	300.0	150.0		
	100	GORK	48	1047.7	1048.1	4.6	300.0			
	100	GORK		1047.7	1051.3		300.0			
	100	GORK	48	1113.5	1115	3.8	300.0			
	100	GORK	48	1123.6	1124.5	2.3	300.0			
	18	MCMA	6	1242	1244	3			1	
	2800	OTTA	20	1255	1315	80	1.6	0.8		
	9285	ARCE	21	1434	1549.9	165				
	9400	HUAN	21	1520.9	1533.6	37	15.1	4.9		
	260	ONDR	45	1522	1527	13	240.0D			
	7000	SAOP	29	1523.3		15.4				
	204	KIEV	41	1523.7	1527.7	10	180.0			
	7000	SAOP	42	1524 E	1530.2	38 U	121.3			
	7000	SAOP	28	1524 E		3 U				
	2800	OTTA	21	1525	1540	35	5.0	2.3		
	2700	PENN	45	1525.3	1531.5	8	69.6	22.3		
	4995	SGMR	46	1526.7	1528.5	10.4	79.2	25.0		
	4995	SGMR	46		1530		100.6			
	4995	CANR	45	1526.5	1529	28	78.0	29.0		

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18	4995	BOUL	45	1526.5	1529.5	37.5	128.0	17.0		
	4995	ATHN	46	1526.7	1529.9	26	90.2	29.7		
	550	KIEV	41	1526.7	1527.7	5	51.0			
	536	ONDR	45	1526.5	1530	5	60.0			
	15400	SGMR	4	1527.3	1527.7	.9	25.9	5.0		
	10700	PENN	45	1527.3	1527.6	4.8	86.3	35.4		
	9400	HUAN	45	1527.1	1527.8	6.2	95.9	39.4		
	9400	HUAN		1527.1	1528.4		82.4			
	9400	HUAN		1527.1	1530.2		72.3			
	9400	SLOU	46	1527	1527.6	5	107.0			
	9285	ARCE	46	1527.3	1528	5.2				
	9285	ARCE		1527.3	1528	1.1				
	8800	SGMR	46	1527.2	1528.6	7.6	81.0	17.0		
	8800	SGMR	46		1530		105.2			
	8800	ATHN	46	1527.2	1527.9	29.4	89.2	29.1		
	7000	SAOP	46	1527.4	1530.2	4.9	121.3	72.6		
	2800	OTTA	46	1527	1531.6	9	33.0	11.2		
	2695	SGMR	46	1527.2	1530.1	8.8	22.1	6.0		
	2695	SGMR	46		1531.5		31.6			
	2695	CANR	45	1527	1532	27	34.0	10.0		
	2695	BOUL	45	1527.5	1532	25.5	33.0	8.0		
	2695	ATHN	46	1527.2	1531.6	23.6	30.5	10.2		
	1420	BOUL	45	1527.5	1529.5	7.5	70.0	13.0		
	1415	SGMR	46	1527.4	1527.9	6.4	61.7	16.6		
	1415	SGMR	46		1528.6		83.6			
	1415	ATHN	46	1527.2	1528.5	25.5	77.7	26.1		
	960	PENN	45	1527.1	1528.3	2.6	132.0	22.8		
	930	BORD	45	1527	1528.2	6	238.0	10.0		
	808	ONDR	45	1527	1528	5.5	180.0			
	606	SGMR	46	1527.4	1528	5.7	26.5	7.0		
	606	SGMR	46		1528.6		36.5			
	410	SGMR	6	1527.2	1528.2	6.2	63.1	12.0		
	245	SGMR	49	1527	1528	7	1210.0	100.0		
	225	HARS	45	1527	1528.5	5	150.0	50.0		
	9285	ARCE		1528.4	1528.7	1.3				
	29	UPIC	45	1528	1528.5	3				
	18	MCMA	48	1528	1532	6			3	
	9285	ARCE		1529.7	1530	2.8				
	960	PENN	3	1530.8	1531.5	1	13.2	4.2		
	10700	PENN	29	1532.1	1532.1	27.6	14.4	7.2		
	9285	ARCE	29	1532.5		13.2				
	2700	PENN	29	1533.3	1533.3	26	13.5	6.8		
	8800	SGMR	30	1534.8	1534.8	18.2	6.6	3.0		
	315	DWIN	45	1534	1538	6	50.0D	25.0		
	9400	HUAN	1	1536.4	1537	1.2	8.4	3.4		
	2695	SGMR	30	1536	1536	21.2	2.3	1.0		
	4995	SGMR	30	1537.1	1537.1	18.2	3.9	2.0		
	960	PENN	45	1542.8	1543.8	1.4	53.0	9.1		
	2695	SGMR	4	1543.8	1548.1	7.3	32.6	6.0		
	1415	ATHN	1	1543.2	1548	5.8	2.0	.7		
	2800	OTTA	45	1544	1545	2.2	4.6	1.6		
	2695	ATHN	3	1546.2	1548.1	4.6	27.9	8.9		
	1420	CANR	3	1546.5	1548	2.5	3.0	1.0		
	10700	PENN	3	1547.9	1548.2	1.4	14.4	5.5		
	9400	HUAN	1	1547.7	1547.9	.7	11.8	5.4		
	9285	ARCE	3	1547.9	1548.2	1.3				
	8800	SGMR	3	1547.8	1548.2	3.4	20.9	5.0		
	8800	ATHN	3	1547.3	1548.1	1.5	17.5	5.8		
	7000	SAOP	3	1547.7	1548.1	.9	26.1	11.3		
	4995	SGMR	3	1547.3	1548.1	3.3	39.0	8.0		
	4995	ATHN	3	1547 U	1548.1	2 U	31.9	9.9U		
	2800	OTTA	3	1547.3	1548.1	3.5	30.0	7.5		
	2700	PENN	3	1547.2	1548.1	3	48.3	11.3		
	1420	BOUL	3	1547.5	1548.5	2	3.0	1.0		
	1415	SGMR	1	1547.3	1548.1	2.3	2.7	1.0		
	245	SGMR	6	1547.5	1548.4	1.8	1.4	.5		
	7000	SAOP	29	1548.6		16.6				
	200	HIRA	45	2016	2017.5	4	75.0	20.0		
	8800	SGMR	4	2031.4	2031.7	2.1	25.2	10.1		
	2800	OTTA	21	2147	2200	30	5.0	2.3		
	2700	PENN	45	2151.7	2155.7	6.4	139.0	42.1		
	2695	BOUL	45	2151.5	2156	13	60.0	25.0		
	1420	BOUL	45	2151.5	2156.5	13.5	72.0	17.0		
	1415	SGMR	46	2151.6	2155.8	27.3	94.0	37.6		
	1415	SGMR	46		2156.8		73.9			
	1000	TYKW	45	2151	2156	22	88.0	10.0		
	960	PENN	45	2151.3	2158.7	13.4	270.0	68.1		
	35000	SGMR	47	2153.6	2156.5	13.6	810.0	105.0		
	15400	SGMR	46	2153.5	2156.5	16	420.0	168.0		
	15400	SGMR	46		2201		68.3			
	9400	HUAN	45	2153.8	2155.9	4.2	306.1	125.3		
	9400	HUAN		2153.8	2156.3		368.4			
	8800	MANI	46	2153.6	2157.2	12	330.0	83.0		
	4995	BOUL	45	2153	2156	11.5	152.0	34.0		
	4995	MANI	46	2153.6	2155.4	12	131.0	39.3		
	2800	OTTA	45	2153.9	2156	5.5	78.0	28.0		
	2695	SGMR	46	2153.8	2155.8	11.2U	61.6	24.0U		
	2695	SGMR	46		2156.6		49.7			
	2695	MANI	46	2153.5	2155.5	12.1	67.0	19.8		
	1415	MANI	46	2153.5	2155.4	12.1	86.0	26.1		

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18	606	MANI	47	2153.3	2201.8	15.4	960.0	205.0		
	606	SGMR	46	2153.8	2156.6	18.9	227.2	182.0		
	606	SGMR	46		2201.1		455.0			
	10700	PENN	45	2154.3	2156.6	5.1	370.0	92.7		
	9400	TYKW	45	2154	2156.4	10	370.0	40.0		
	4995	SGMR	46	2154	2155.7	16 U	147.0	71.0U		
	4995	SGMR	46		2156.5		117.0			
	3750	TYKW	45	2154	2155.7	11	100.0	30.0		
	2000	TYKW	45	2154	2155.9	11	63.0	10.0		
	410	SGMR	49	2154	2155.6	31.3	760.0	304.0		
	245	SGMR	49	2154	2155.8	31.3	1010.0	404.0		
	208	VORO	41	2154	2157	9	554.0			
	200	HIRA	45	2154	2157	9.5	200.0D	15.0D		
	100	HIRA	45	2154.2	2156.3	4	85.0	20.0		
	8800	SGMR	46	2155.1	2156	11.9U	272.0	140.0U		
	8800	SGMR	46		2156.5		370.0			
	500	HIRA	45	2155	2155.9	9	620.0	60.0		
	9400	HUAN	30	2158	2158	9	30.3	14.9		
	2700	PENN	29	2158.1	2158.1	23.5	11.9	5.9		
	10700	PENN	29	2159.4	2159.4	21	17.9	8.9		
	10700	PENN	5	2200.4			40.0D			
	9400	HUAN	4	2200	2201	3.7	55.5	22.3		
	2700	PENN	5	2200.2			20.0D			
	2695	PENT	4	2200	2201	5	10.4	5.2		
	500	HIRA	45	2252.5	2258.8	22	20.0	10.0		
	606	MANI	40	2253.5	2307.2	18	33.5	10.0		
	2800	OTTA	24	2305		160	8.4			
	200	HIRA	43	2315	0122	425	140.0	30.0		
	100	HIRA	43	2317	0134	610 D	180.0	60.0		SUNSET
	208	VORO	44	2330	0045	90	36.0	20.0		
19	606	MANI	4	0001.8	0004	8.4	49.6	13.4		
	245	BOUL	44	0037		65 D			2	
	100	GORK	44	0303 E		417 D		10.0		
	650	GORK	22	0328.8		15	19.0	8.8		
	650	GORK	22	0437.4	0519.6	65	6.6	3.0		
	650	GORK	40	0614	0617	7	5.0	2.0		
	3750	TYKW	20	0620	0649	60	3.0	1.0		
	100	GORK	41	0642.2	0642.4	17.4	200.0D			
	100	GORK		0642.2	0652.6		200.0			
	1420	CRON	3	0825	0826.5	4	3.0	1.0		
	9285	ARCE	21	1003.4	1013	22				
	9285	ARCE	1	1003.9	1004.3	1.5				
	930	BORD	45	1136	1138.6	7	18.0	2.0		
	2800	OTTA	20	1155	1220	85	1.6	0.8		
	7000	SAOP	32	1307.4		40.3	-6.6			
	2800	OTTA	20	1333	1336	35	1.6	0.8		
	7000	SAOP	32	1408.1		58	-6.8			
	315	DWIN	41	1439	1440	2	20.0	25.0		
	315	DWIN	41	1502	1503	2	40.0	25.0		
	9285	ARCE	22	1550 U	1559.7	24 U				
	2800	OTTA	21	1555	1618	50	2.2	1.1		
	7000	SAOP	23	1556.8	1558.5	22 U	13.3			
	7000	SAOP	22	1556.8		22 U	5.7			
	15400	SGMR	3	1557.5	1557.8	.6	11.2	4.1		
	10700	PENN	1	1557.1	1558	1.6	5.1	1.9		
	8800	SGMR	1	1557.6	1557.8	2.3	9.0	3.0		
	4995	SGMR	1	1557.4	1557.8	3.1	4.4	1.4		
	8800	ATHN	3	1558.2	1559.1	4.7	11.7	3.9		
	7000	SAOP	8	1558.1	1508.5	.7	6.8	3.4		
	2695	BOUL	45	1600.5	1604	8.5	8.0	3.0		
	2800	OTTA	2	1602.8	1603.6	6	5.0	2.5		
	2695	SGMR	1	1602.5	1605.2	6.9	5.1	1.2		
	2695	CANR	45	1602.5	1604	5.5	7.0	2.0		
	1420	CANR	3	1602.5	1603.5	3	3.0	1.0		
	1420	BOUL	3	1602	1603	1.5	4.0	1.0		
	1415	SGMR	1	1602.9	1603.2	1.6	4.2	.8		
	245	SGMR	6	1602.6	1603.3	1.8	18.7	3.7		
	4995	SGMR	1	1603	1603.6	9.6	3.6	1.0		
	2695	ATHN	2	1603.7	1603.7	8.9	6.2	2.5		
	1415	ATHN	2	1603.7	1604.2	3.3	4.0	1.3		
	410	SGMR	6	1603	1603.6	1.3	10.1	3.0		
	245	SGMR	43	1639.6	2222.9	438.4D	68.2			
	100	HIRA	44	1930 E	0750	840 D	100.0	20.0		
	208	VORO	44	2100	2354	240	17.0	10.0		
	245	BOUL	42	2137	2243	140			2	
	1420	BOUL	45	2026.5	2035.5	48	474.0	140.0		
	2800	OTTA	21	2155		110	9.2	4.0		
	245	SGMR	48	2208.3	2209.9	3	2100.0	1000.0		
	2800	OTTA	1	2230.8	2233.8	3	1.6	0.7		
	2695	BOUL	47	2233.5	2245.5	36	1909.0	311.0		
	100	HIRA	5	2235	2235.2	1	80.0	30.0		
	4995	BOUL	47	2237	2244.5	47	781.0	199.0		
	2700	PENN	47	2237	2244.4	11	1883.0	112.0		
	2000	TYKW	45	2237	2244.5	15	640.0	50.0		
	4995	MANI	47	2238.5	2244.4	23.4	690.0	320.0		
	3750	TYKW	45	2238	2244.5	15	550.0	50.0		
	2695	MANI	47	2238.5	2244.4	23	1640.0	194.0		
	1415	MANI	47	2238.5	2244.2	22.5	680.0	255.0		
	10700	PENN	45	2239.6	2244.5	8.4	479.0	82.4		

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	9400	TYKW	45	2239	2244.5	21	830.0	70.0		
	1415	SGMR	4	2239.8	2244.3	24.3	350.0	60.0		
	1000	TYKW	45	2239	2244.7	13	312.0	21.0		
	960	PENN	47	2239.2	2243.6	8	625.0	18.6		
	606	MANI	40	2239.2	2243.6	18.9	265.0	108.0		
	606	SGMR	46	2239.2	2244.7	24.4	202.0	35.0		
	606	SGMR	46		2250.2		59.0			
	410	SGMR	7	2239.1	2244.9	24.8	465.0	70.0		
	245	SGMR	49	2239.3	2243.2	23.3	1070.0	225.0		
	200	HIRA	45	2239.2	2240	2	100.0	50.0		
	9750	IRKU	3	2241	2244.5	21	165.0			
	8800	MANI	47	2241.5	2244.6	20.5	970.0	370.0		
	4995	SGMR	47	2242.6	2244.4	14.7	508.0	140.0		
	2800	OTTA	47	2242.5	2244.5	12	1470.0	177.0		
	2695	SGMR	47	2242.6	2244.3	9.9	1420.0	210.0		
	500	HIRA	45	2242	2244.8	4	200.0	100.0		
	208	VORO	6	2242	2243	4	460.0	180.0		
	200	HIRA	45	2242.4	2243.3U	5	820.0D	300.0D		
	100	HIRA	45	2242.3	2245.2	7.5	240.0	70.0		
	15400	SGMR	47	2243.5	2244.5	11.6	570.0	100.0		
	8800	SGMR	47	2243.2	2244.5	11.9	1000.0	180.0		
	10700	PENN	29	2248 U	2248		58.3			
	2700	PENN	29	2248 U	2248		19.1			
	2700	PENN	3	2248.6	2250.2	3.4	23.3	13.5		
	960	PENN	45	2248	2250.4	3.6	102.0	10.0		
	10700	PENN	3	2249.2	2251.2	3.6	19.4	9.9		
	100	HIRA	45	2250.5	2256.5	4.5	240.0	90.0		
	2000	TYKW	29	2252		40	6.0	2.0		
	1000	TYKW	29	2252		30	3.0	1.0		
	3750	TYKW	29	2253		60	11.0	4.0		
	9400	TYKW	29	2300		40	17.0	5.0		
20	100	GORK	44	0300 E		420		20.0		
	260	ONDR	44	0510	0547.5	660	110.0			
	204	KIEV	44	0630 E		600 D	89.0	34.0		
	200	GORK	44	0636		210		5.0		
	221	ABST	41	0700	0940	240	37.0			
	210	IZMI	44	0700		300	70.0			
	315	DWIN	44	0719		521		45.0		
	410	SGMR	44	0921 E	1230.5	878 D	17.9			
	245	SGMR	44	0921 E	2021.6	878 D	162.0			
	245	BOUL	44	1157		825 D			2	
	100	HIRA	44	1930 E	0317	840 D	120.0	65.0		
	208	VORO	44	2100	2256	240	34.0	18.0		
	200	GORK	6	0353.3	0353.8	.7	120.0	50.0		
	200	GORK	41	0422.2	0422.5	.9	200.0			
	200	GORK		0422.2	0422.9		500.0			
	100	GORK	41	0442	0444.9	12.8	300.0			
	100	GORK		0442	0449.1		300.0			
	4995	CRON	45	0446.5	0450.5	32.5	125.0	35.0		
	9400	TYKW	45	0448	0450.2	6	155.0	30.0		
	9100	GORK	21	0448.8	0452.8	22.7	30.0	9.6		
	4995	MANI	45	0448.2	0450.4	7.3	154.0	21.2		
	4995	ATHN	4	0448.4	0450.3	5.3	38.5	13.2		
	3750	TYKW	45	0448	0450.8	6	110.0	45.0		
	2000	TYKW	45	0448	0450.8	25	35.0	5.0		
	1420	CRON	8	0448.5	0451	4.5	29.0	10.0		
	1000	TYKW	45	0448	0451.1	5	36.0	9.0		
	650	GORK	46	0448.5	0451.3	4.6	61.0	11.8		
	650	GORK		0448.5	0452.3		8.7			
	9750	IRKU	3	0449	0450.3	11	190.0			
	2695	MANI	4	0449.9	0450.8	3.4	60.0	10.6		
	2695	CRON	45	0449	0451	5.5	47.0	17.0		
	2695	ATHN	3	0449.9	0450.7	3.1	19.0	6.8		
	1415	MANI	4	0449.9	0450.8	3.8	31.6	9.6		
	1415	ATHN	3	0449.2	0450.7	6.1	14.0	4.2		
	950	GORK	4	0449.6	0451.3	3.3	41.0	12.0		
	9100	GORK	45	0450.3	0450.6	2.3	131.0	32.0		
	9100	GORK		0450.3	0451.1		52.0			
	8800	MANI	4	0450	0450.3	6	165.0	26.8		
	8800	ATHN	1	0450.1	0450.3	1.2	8.4	2.1		
	606	MANI	40	0450.2	0450.8	2.7	148.0	9.8		
	500	HIRA	5	0450.2	0451	2	50.0	20.0		
	200	GORK	6	0451.2	0451.6	.9	50.0	10.0		
	1000	TYKW	29	0453		28	2.0	2.0		
	9400	TYKW	29	0454		64	13.0	10.0		
	3750	TYKW	29	0454		48	8.0	6.0		
	950	GORK	40	0457	0458.5	1.8	3.0			
	650	GORK	40	0457	0458.4	2.6	3.8	1.4		
	200	GORK	41	0458.3	0458.4	13.9	50.0	2.0		
	200	GORK		0458.3	0504		350.0D			
	200	GORK		0458.3	0504.8		1700.0			
	1000	TYKW	40	0502.5	0504.7	4	39.0	3.0		
	950	GORK	46	0502.7	0504.7	5.4	49.0			
	950	GORK		0502.7	0507.9		48.0			
	650	GORK	46	0502.7	0504.7	3.9	38.0			
	650	GORK		0502.7	0506		73.0			
	606	MANI	40	0502.5	0504.6	4.8	47.4	6.5		
	100	GORK	41	0502.9	0503.2	4	350.0			
	100	GORK		0502.9	0504.6		250.0			

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20	100	GORK		0502.9	0505.3		3000.0			
	1415	MANI	40	0503	0504.6	3.7	19.2	2.9		
	1420	CRON	45	0504.5	0505	1.5	17.0	6.0		
	2000	TYKW	29	0513		20	4.0	3.0		
	1000	TYKW	45	0521	0559.3	80	45.0	5.0		
	2695	MANI	4	0525.8	0527.4	3.1	11.7	2.1		
	2695	CRON	45	0526.5	0528	3	9.0	3.0		
	2000	TYKW	45	0526	0527.5	4	24.0	3.0		
	1420	CRON	8	0526	0527.5	4	4.0	1.0		
	1415	MANI	2	0526.3	0527.6	3.8	2.9	1.0		
	536	ONDR	45	0526	0549	43	100.0			
	225	HARS	45	0527	0532.5	13	120.0	45.0		
	1420	CRON	45	0532.5	0559	36	25.0	6.0		
	2000	TYKW	45	0533	0558.9	35	57.0	8.0		
	650	GORK	23	0533.4		66	6.9			
	2695	MANI	23	0536.1	0550.6	40.3	21.2	10.6		
	1415	MANI	23	0537	0550.5	38.6	18.2	9.6		
	2695	CRON	45	0538.5	0557	30.5	92.0	2.3		
	100	GORK	41	0538.8	0540.1	9.7	250.0			
	100	GORK		0538.8	0546.6		250.0			
	8800	MANI	23	0539.6	0546.6	40.9	23.4	9.8		
	4995	MANI	23	0539.8	0550.5	40.2	12.7	5.6		
	950	GORK	23	0539.1	0546.8	50	15.3	6.0		
	606	MANI	41	0539.4	0549.3	32.6	68.0	19.5		
	808	ONDR	45	0540	0547	10	75.0			
	200	HIRA	45	0540	0547.8	34	220.0	40.0		
	3750	TYKW	45	0542	0559	30	185.0	17.0		
	200	GORK	48	0542	0548.8	20	150.0			
	200	GORK		0542	0600.5	5.8	350.0			
	4995	CRON	45	0543	0558.5	25.5	159.0	54.0		
	650	GORK	46	0543.9	0547.2	7.6	49.0			
	650	GORK		0543.9	0549.3		58.0			
	500	HIRA	45	0544	0549.4	8	50.0	20.0		
	9750	IRKU	45	0555	0559.1	15	127.0			
	9750	IRKU		0555	0600.4		94.5			
	4995	ATHN	3	0556	0558.9	9.7	146.0	47.3		
	9100	GORK	21	0557	0601.4	19.6	33.0	8.8		
	4995	MANI	4	0557.9	0559.2	5.2	196.0	42.3		
	2695	ATHN	3	0557.9	0558.7	7.6	120.0	39.4		
	100	GORK	48	0557.3	0559.1	3.6	3500.0			
	9400	TYKW	45	0558	0559.1	14	90.0	20.0		
	9400	SLOU	4	0558	0559	5	77.0			
	9100	GORK	45	0558.6	0559.2	2.8	77.0	31.0		
	9100	GORK		0558.6	0600.4		46.0			
	8800	MANI	4	0558.5	0559.3	3	101.0	29.3		
	8800	ATHN	3	0558.2	0558.8	7.7	71.4	23.1		
	2695	MANI	4	0558	0559	5	126.0	31.8		
	1415	MANI	4	0558.2	0559.3	2.7	23.0	9.6		
	1415	ATHN	3	0558	0558.9	3.9	23.1	7.7		
	950	GORK	46	0558.1	0558.5	1.9	48.0			
	950	GORK		0558.1	0559.5U		48.0D			
	808	ONDR	45	0558	0559	6	140.0			
	650	GORK	4	0558.5	0559.3	1.5	35.0	14.6		
	500	HIRA	5	0558.8	0559.2	1	20.0	10.0		
	113	POTS	45	0558 U	0559 U	6 U	1000.0	150.0		
	29	UPIC	45	0558	0559.5	34				
	23	POTS	45	0558 U	0559.5U	6 U	35000.0	7000.0		
	650	GORK	3	0607.3	0607.7	.4	6.9	3.4		
	2000	TYKW	29	0608		112 D	5.0	3.0U		
	9400	TYKW	29	0612		70	12.0	5.0		
	3750	TYKW	29	0612		180 D	8.0	5.0U		
	1420	CRON	45	0617	0618	2.5	3.0	1.0		
	100	GORK	6	0624.7	0627.5U	4.6	300.0D			
	1000	TYKW	29	0641		79 D	4.0	3.0U		
	9285	ARCE	21	0911.5	0918.3	20.7				
	9285	ARCE	3	0922.6	0923.5	2.7				
	4995	CANR	3	0922.5	0923.5	4.5	8.0	3.0		
	3000	BERL	1	0922	0924.2	5.5	2.1			
	950	GORK	2	0922.9	0923.1	1.4	5.7	1.5		
	650	GORK	4	0922.9	0923.2	1.5	10.0	3.5		
	536	ONDR	45	0922.5	0923	2	60.0			
	29	UPIC	45	0922	0923.5	4				
	9500	BERL	1	0923	0923.5	3.5	8.3			
	9100	GORK	1	0923	0923.5	4.6	13.0	6.5		
	2695	CANR	3	0923.5	0924.5	3.5	3.0	1.0		
	1500	BERL	40	0923	0929.3	7	1.6			
	550	KIEV	6	0923	0923.5	1.5	45.0			
	510	POTS	45	0923.4	0923.4	.2	80.0	8.0		
	408	TRST	41	0923	0923.5	1.4	36.0			
	23	POTS	45	0923	0923.2	.9	7000.0	1500.0		
	650	GORK	1	0929	0929.2	.5	2.8	1.4		
	9500	BERL	20	0945	0952	10	2.8			
	9100	GORK	1	0945.3	0946.5	3	6.4	3.2		
	3000	BERL	1	0945.5	0946.5	7	3.4			
	2695	CANR	45	0946	0946.5	5	3.0	1.0		
	1500	BERL	46	0946	0946.5	7	5.1	1.0		
	1420	CANR	8	0946.5	0947	1.5	4.0	1.0		
	950	GORK	1	0946.1	0946.4	.6	2.8	1.4		
	950	GORK	1	0946.1	0946.5	2	3.0			
	2800	OTTA	21	1130	1145	35	2.4	1.2		

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MAY 1973

MAY 1973	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} MEAN	INT	REMARKS
20	4995	CANR	21	1139	1151.5	9	10.0	3.0		
	9500	BERL	20	1141.5	1142.3	7.5	4.1			
	8800	ATHN	1	1141.6	1142.3	1.7	5.8	1.9		
	8800	SGMR	1	1141.9	1142.5	.9	5.3	2.7		
	4995	ATHN	1	1141 U	1142.2	3 U	6.3	1.9U		
	4995	SGMR	1	1141	1141.9	1.9	3.9	1.9		
	3000	BERL	2	1141	1142.1	6.5	3.7	1.3		
	2800	OTTA	1	1141	1142	3	2.4	1.2		
	2695	CANR	3	1141.5	1142.5	2	2.0	1.0		
	2695	ATHN	1	1141.6	1141.7	1.7	2.5	.9		
	1500	BERL	4	1141	1142.2	2.5	8.4	2.5		
	1420	CANR	45	1141.5	1143	2.5	5.0	2.0		
	1415	ATHN	4	1141.5	1142.6	1.8	11.4	3.6		
	1415	SGMR	4	1141.6	1142.7	2	13.0	5.2		
	113	POTS	40	1154.2	1156.4	2.9	650.0	65.0		
	9500	BERL	22	1215.5	1216	8.5	9.8			
	1420	CANR	45	1253.5	1256	7.5	64.0	15.0		
	9500	BERL	4	1254.5	1256.3	20	21.0	5.7		
	9400	HUAN	3	1254.8	1256.2	9.1	24.8	7.5		
	8800	SGMR	4	1254.3	1256.4	13.4	30.7	12.2		
	8800	ATHN	3	1254.3	1256.4	6	25.2	7.8		
	4995	SGMR	4	1254.4	1256.3	13.7	42.1	16.0		
	4995	CANR	8	1254.5	1256	14	37.0	12.0		
	4995	BOUL	45	1254.5	1256	4	43.0	11.0		
	4995	ATHN	3	1254 U	1256.4	10 U	36.5	11.3U		
	3000	BERL	4	1254.5	1256.5	19	26.0	8.3		
	2800	OTTA	4	1254	1256.1	7	26.2	7.0		
	2700	PENN	3	1254.8	1256.4	5.8	37.2	10.8		
	2695	CANR	45	1254.5	1256.5	10	27.0	8.0		
	2695	ATHN	3	1254.2	1256.4	9.1	23.9	7.6		
	1500	BERL	4	1254.5	1256.2	6.5	70.0	9.8		
	1420	BOUL	45	1254.5	1256.5	4	86.0	26.0		
	1415	SGMR	4	1254.2	1255.8	7.6	128.0	50.5		
	1415	ATHN	4	1254.4	1255.7	5.9	152.0	21.3		
	606	SGMR	4	1254.7	1256.4	6.3	15.0	6.0		
	550	KIEV	6	1254.5	1256.4	2.7	50.0			
	536	ONDR	45	1254.5	1256	4	65.0			
	410	SGMR	6	1254.1	1254.6	7.4	155.0	62.0		
	9400	SLOU	4	1255	1256.2	3	52.0			
	9285	ARCE	3	1255	1256.3	3.3				
	960	PENN	45	1255.4	1256.5	5.6	164.0	15.3		
	808	ONDR	45	1255	1257.5	5	130.0			
	510	POTS	45	1255.5U	1256.4	3	85.0	5.0		
	23	POTS	45	1256.1	1256.2	.6	5000.0	700.0		
	9285	ARCE	29	1258.3		28				
	2800	OTTA	29	1301		20	1.6	0.8		
	2800	OTTA	21	1440	1449	28	2.2	1.1		
	4995	SGMR	1	1447.2	1449.9	6.9	6.6	3.3		
	4995	ATHN	1	1447 U	1449.7	7 U	6.3	1.9U		
	2695	SGMR	1	1447.8	1450	5.9	3.8	1.9		
	8800	SGMR	1	1448.4	1450	8.5	4.8	2.4		
	4995	BOUL	3	1448	1449.5	2.5	11.0	4.0		
	2695	ATHN	1	1448.5	1450.1	3.5	3.8	1.3		
	1420	BOUL	3	1448.5	1450	5.5	1.0			
	2800	OTTA	1	1449.8	1450	1	1.6	0.8		
	2695	CANR	3	1449.5	1450.5	1.5	3.0	1.0		
	2695	BOUL	8	1449	1450.5	2.5	4.0	1.0		
	1415	ATHN	1	1449	1451.4	4.4	2.1	.7		
	18	MCMA	6	1449	1451	2			1	
	4995	CANR	3	1651.5	1653.5	8	15.0	5.0		
	10700	PENN	1	1652.5	1654.2	3.2	7.7	3.8		
	9400	HUAN	1	1652.3	1652.6	6.3	14.9	5.3		
	8800	ATHN	3	1652.5	1654.2	3.7	11.6	3.9		
	4995	BOUL	3	1652.5	1654	3	16.0	4.0		
	2800	OTTA	1	1652	1654	4	9.2	2.3		
	2700	PENN	3	1652.3	1654	2.9	16.1	5.0		
	2695	CANR	8	1652.5	1654.5	5	10.0	3.0		
	1420	BOUL	8	1652	1654.5	3	7.0	2.0		
	1415	ATHN	1	1652.7	1654.6	2.4	7.1	2.1		
	606	SGMR	2	1652.4	1654.1	2.6	7.2	2.8		
	410	SGMR	6	1652.2	1652.7	3.6	16.8	4.7		
	245	SGMR	6	1652.1	1652.8	2.8	283.0	70.8		
	18	MCMA	41	1652	1655	4			2	
	2695	BOUL	8	1653.5	1654.5	2	9.0	3.0		
	2695	ATHN	1	1653.7	1654.2	1.7	5.0	1.9		
	1420	CANR	8	1653.5	1655	2	6.0	2.0		
	1415	SGMR	2	1653	1654.5	2.6	9.5	3.8		
	960	PENN	8	1654.3	1654.4	.4	15.1			
	1420	BOUL	3	1745.5	1747	2.5	2.0	1.0		
	18	MCMA	6	1747	1750	3			1	
	7000	SAOP	23	1821.8	1825.6	22.2	15.9			
	7000	SAOP	22	1821.8		22.2	15.9			
	9400	HUAN	20	1822.4	1826.2	11.1	14.9	5.0		
	1420	CANR	45	1822.5	1825.5	4.5	4.0	1.0		
	10700	PENN	3	1823.5	1825.5	5.2	10.4	3.2		
	7000	SAOP	4	1823.6	1825.6	2.1	5.7	2.3		
	4995	SGMR	20	1823.8	1825.4	10.2	16.0	4.0		
	4995	CANR	45	1823.5	1824.5	4.5	15.0	5.0		
	2800	OTTA	45	1823.5	1825.3	5	9.0	4.3		
	2700	PENN	3	1823.3	1825.3	5.2	14.2	4.1		

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MAY 1973	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	REMARKS
20	2695	SGMR	1	1823.8	1825.4	9.4	8.6	1.9		
	2695	CANR	45	1823.5	1825.5	6	10.0	3.0		
	1420	BOUL	3	1823.5	1826	4	2.0	1.0		
	8800	SGMR	3	1824	1825.2	9.3	10.8	2.2		
	4995	BOUL	45	1824	1825	6	28.0	7.0		
	2695	BOUL	45	1824	1826	5.5	9.0	3.0		
	1415	SGMR	1	1824.7	1825.8	3.8	2.3	.6		
	606	SGMR	1	1824.5	1824.9	2.4	4.8	1.0		
	410	SGMR	6	1824.5	1826	2.3	29.6	4.8		
	18	MCMA	6	1824	1825	3			1	
	2800	OTTA	29	1828.5		12	1.8	0.9	1	
	18	MCMA	42	1915	1917	5				
	4995	SGMR	1	1925.9	1926.4	3.5	2.1	.5		
	2800	OTTA	1	1925.5	1926.9	2.5	7.6	3.6		
	2700	PENN	3	1925.4	1926.4	5.2	14.0	3.1		
	2695	SGMR	1	1925.6	1926.4	3.9	8.4	2.2		
	1415	SGMR	1	1925.7	1926.5	1.6	1.5	.7		
	2695	BOUL	3	1926	1926.5	2.5	7.0	2.0		
	1420	BOUL	3	1926	1927	2	2.0	1.0		
	2800	OTTA	29	1928		10	1.6	0.8		
	2800	OTTA	21	2010	2025	30	2.8	1.2		
	9400	HUAN	22	2013.9	2022.4	26.5	18.2	7.6		
	18	MCMA	42	2015	2018	4			2	
	10700	PENN	3	2016.2	2022.4	11.4	12.6	6.1		
	8800	SGMR	22	2016.3	2022.4	16.2	22.7	4.4		
	4995	SGMR	22	2016.3	2022.3	15.8	26.8	5.1		
	4995	BOUL	45	2016	2022	10.5	31.0	8.0		
	2800	OTTA	2	2016	2018	3	4.4	2.0		
	2700	PENN	3	2016.4	2022.3	14.4	22.1	6.7		
	2695	SGMR	22	2016.2	2022.4	17.2	13.5	2.8		
	1415	SGMR	22	2016.6	2022.4	12	3.6	.9		
	606	SGMR	22	2016.4	2022.5	13.4	20.8	4.1		
	410	SGMR	6	2016.2	2016.9	8.8	41.7	8.6		
	2695	BOUL	45	2017	2023	11.5	13.0	4.0		
	1420	BOUL	8	2017.5	2018.5	2	3.0	1.0		
	2800	OTTA	4	2020	2022.2	5	11.8	3.9		
	1420	BOUL	3	2021.5	2022.5	2.5	2.0	1.0		
	2800	OTTA	21	2052	2054	45	2.6	1.3		
	2800	OTTA	1	2053.2	2053.8	1	2.6	1.3		
	2695	BOUL	21	2053	2054	10	7.0	1.0		
	1420	BOUL	45	2053.5	2054.5	7	3.0	1.0		
	8800	MANI	4	2144.5U	2147.2	7.5U	186.0U	75.0U		SUNRISE
	4995	MANI	4	2144.5U	2147.2	7.5U	315.0U	49.5U		SUNRISE
	2695	MANI	4	2144.5U	2147.2	7.5U	90.0U	18.6U		SUNRISE
	1415	MANI	4	2144.5U	2147.2	7.5U	19.4U	9.7U		SUNRISE
	606	MANI	4	2144.6U	2147.2	7.4U	15.7U	5.2U		SUNRISE
	2695	BOUL	8	2145.5	2148	6	73.0	25.0		
	15400	SGMR	4	2146.5	2147.1	1.3	28.1	9.3		
	9400	HUAN	8	2146.9	2147.4	1.5	79.5	27.1		
	4995	SGMR	3	2146.9	2147.3	1.7	190.1	47.5		
	4995	BOUL	8	2146	2148	2.5	232.0	94.0		
	2800	OTTA	3	2146	2147	6	88.0	12.7		
	2700	PENN	3	2146.4	2147.3	6.8	145.0	9.9		
	2695	SGMR	3	2146.9	2147.3	1.5	57.5	14.4		
	1415	SGMR	4	2146.7	2147.5	3.5	27.0	5.3		
	606	SGMR	4	2146.8	2147.2	2.3	18.3	3.7		
	410	SGMR	48	2146.9	2147.1	2.1	580.0	193.0		
	245	SGMR	48	2146.3	2147.4	3.5	630.0	158.0		
	10700	PENN	3	2147	2147.2	7.2	36.3	3.4		
	9400	TYKW	3	2147	2147.3	2	85.0	20.0		
	8800	SGMR	3	2147.1	2147.4	1.8	82.2	20.5		
	3750	TYKW	3	2147	2147.5	3	170.0	20.0		
	2000	TYKW	3	2147	2147.4	3	36.0	5.0		
	1420	BOUL	8	2147	2147.5	3.5	15.0	5.0		
	1000	TYKW	3	2147	2147.4	2	16.0	3.0		
	960	PENN	1	2147	2147.4	1.4	9.1	3.5		
	500	HIRA	5	2147	2147.4	1	110.0	50.0		
	18	MCMA	6	2148	2149	3			1	
	2800	OTTA	31	2152	2205	50	-2.2	-1.1		
	2695	BOUL	45	2155.5	2156.5	6.5	26.0	9.0		
21	100	GORK	44	0300 E		420 D		20.0		
	260	ONDR	44	0510	1035.5	650	60.0			
	550	KIEV	42	0620 E		520 D	38.0	30.0		
	204	KIEV	44	0620 E		480 D	35.0	12.0		
	315	DWIN	44	0821		459		35.0		
	410	SGMR	44	0920 E	1743.9	880 D	177.7			
	245	SGMR	44	0920 E	1036.4	880 D	37.9			
	100	HIRA		1930 E	2000	840 D	100.0	40.0		
	245	BOUL	42	2019	2232	132				SUNRIS
	208	VORO	44	2100	2131	240	24.0	14.0	1	
	245	BOUL	42	2326	2354	93			2	
	3750	TYKW	20	0345	0401.3	40	18.0	2.0		
	8800	MANI	3	0359.6	0401.4	6.1	12.4	4.1		
	4995	CRON	8	0359	0401.5	10	21.0	5.0		
	4995	MANI	3	0359.4	0401.4	4.6	21.6	5.4		
	2695	MANI	1	0359.4	0401.6	4.6	9.9	2.2		
	1415	MANI	1	0359.4	0401.6	4.6	2.0	1.0		
	606	MANI	1	0359.9	0401.6	2.7	1.7	.6		
	9750	IRKU	20	0400	0401.4	9	15.0	6.0		

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MAY 1973	FREQUENCY STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} MEAN	INT	REMARKS
21	9400 TYKW	3	0400	0401.2	3	10.0	3.0		
	9100 GORK	1	0400.2	0401.4	2.9	13.0	6.5		
	1000 TYKW	45	0400	0401.3	15	2.0	1.0		
	225 HARS	45	0400	0401	2.5	75.0	20.0		
	1420 CRON	8	0401	0401.5	1	5.0	2.0		
	204 KIEV	41	0626	0629.6	5.5	100.0			
	29 UPIC	45	0636	0640	4.5				
	3100 CRIM	3	0654	0700	73	15.0	5.0		
	29 UPIC	45	0824	0826	4				
	29 UPIC	45	0912	0914	3.5				
	210 IZMI	6	0914	0914.1	.2	40.0	15.0		
	113 POTS	45	0914	0914	.2	1200.0	300.0		
	23 POTS	45	0914	0914.1	.6	15000.0	4000.0		
	29 UPIC	45	0927.5	0928.5	3				
	2800 OTTA	21	1210	1213	25	1.0	0.5		
	9285 ARCE	1	1211.7	1212.2	1.1				RECORD DIST
	4995 SGMR	4	1211.7	1212.3	5.5	28.9	5.8		
	4995 CANR	21	1211	1211.5	6	29.0	10.0		
	3000 BERL	3	1211.5	1212.3	20	8.1			
	2800 OTTA	1	1211.7	1212.1	1	6.8	3.4		
	2700 PENN	3	1211.6	1212.1	1.4	11.7	3.4		
	2695 SGMR	2	1211.7	1212.2	2.3	8.0	1.6		
	10700 PENN	1	1212	1212.2	3.6	5.0	1.1		
	9500 BERL	2	1212	1212.1	8	6.9			
	9285 ARCE	29	1212.8		9 U				
	8800 SGMR	4	1212	1212.2	6.8	13.8	2.7		
	2695 CANR	8	1212.5	1213	1	6.0	2.0		
	18 MCMA	41	1212	1213	2			1	
	18 MCMA	6	1327	1329	3			1	
	3000 BERL	1	1434	1434.9	1.5	3.3			
	2800 OTTA	1	1434	1435	1.5	2.4	1.2		
	2695 CANR	8	1434.5	1435.5	1.5	4.0	1.0		
	2695 BOUL	8	1434.5	1435	1	4.0	1.0		
	1500 BERL	1	1434.7	1435	.7	1.0			
	2800 OTTA	20	1450	1600	135	2.6	1.3		
	18 MCMA	41	1630	1632	3			1	
	18 MCMA	6	1644	1645	2			1	
	2800 OTTA	21	1743	1749	20	3.4	1.7		
	2800 OTTA	1	1743	1745	3	3.2	1.6		
	2695 BOUL	3	1744.5	1745.5	2	4.0	1.0		
	2800 OTTA	2	2053.2	2054.2	3	2.0	0.8		
	18 MCMA	41	2144	2146	3			1	
	245 SGMR	6	2149.6	2150.7	1.8	69.7	6.0		
	18 MCMA	41	2159	2200	2			1	
	410 SGMR	6	2221.5	2222.1	1	24.8	6.2		
	245 SGMR	6	2221.7	2222.2	1	116.1	29.0		
	2695 PENT	2	2337	2338.5	5	1.8	0.9		
22	100 GORK	44	0300 E		600 D		20.0		
	260 ONDR	44	0510	0536	270	160.0			
	210 IZMI	41	0841.5	0841.5	10.5	45.0			
	113 POTS	41	0848.4	0848.4	3.6	700.0	20.0		
	950 GORK	1	0922.4	0922.6	.4	1.3	0.6		
	315 DWIN	41	0923	0923.5	1	40.0			
	210 IZMI	41	0930.5	0933	3	70.0			
	606 SGMR	1	0932.8	0933.2	.7	6.6	2.2		
	245 SGMR	6	0932.6	0933.2	1.3	31.1	8.0		
	410 SGMR	6	0933.1	0933.3	.8	26.2	7.1		
	408 TRST	41	0933	0933.3	.4	54.0			
	950 GORK	1	0934.5	0934.8	1.6	7.7	1.3		
	221 ABST	1	0934.8	0935	.5	100.0			
	113 POTS	45	0938.3	0938.5	.6	400.0	80.0		
	100 GORK	41	0940.6	0941.9	3.4	400.0			
	100 GORK		0940.6	0942.6		300.0			
	3000 BERL	4	1050	1052.4	15	18.0	1.6		
	2800 OTTA	21	1050	1053.5	15	2.6	1.3		
	2695 CANR	8	1050.5	1052.5	4.5	27.0	10.0		
	4995 SGMR	1	1051.8	1052.5	1.2	4.7	.9		
	2800 OTTA	4	1051.5	1052.2	1.5	13.6	3.4		
	2695 SGMR	4	1051.6	1052.2	2.7	18.0	3.0		
	1500 BERL	2	1052	1052.4	1	3.1			
	1415 SGMR	1	1052.2	1052.4	.4	2.8	.6		
	113 POTS	41	1128.6	1129.1	4.8	280.0	20.0		
	4995 SGMR	20	1414.5	1417.9	18.5	2.7	1.0		
	2695 SGMR	20	1414.5	1420.6	18.3	5.5	2.0		
	18 MCMA	6	1417	1418	2			1	
	2695 SGMR	20	1537.7	1543.8	16.3	5.5	2.0		
	4995 SGMR	1	1539.8	1541.3	6.1	2.7	1.0		
	4995 SGMR	20	1607	1613.6	19	2.3	1.0		
	2695 SGMR	20	1607.4	1614.3	17.1	5.0	2.0		
	7000 SAOP	20	1616.9		47.5	4.5			
	18 MCMA	41	1704	1705	16			1	
	2800 OTTA	21	1705	1755	165	7.4	3.7		
	4995 SGMR	22	1710 U	1723 U	85.7U	6.2	3.0U		
	2695 SGMR	22	1710 U	1724 U	78.3U	7.5	3.0U		
	7000 SAOP	22	1711.8		22.1	10.1			
	4995 CANR	3	1714	1716.5	5.5	10.0	3.0		
	2800 OTTA	21	1715	1718	30	5.2	2.6		

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	4995	BOUL	3	1716	1718	5.5	11.0	3.0		
	2800	OTTA	8	1731.2	1731.5	.5	4.2			
	606	SGMR	2	1731.5	1731.7	.8	4.0	1.0		
	410	SGMR	6	1731.5	1731.8	.9	7.3	1.8		
	245	SGMR	6	1731.4	1731.8	8.2	24.4	6.1		
	18	BOUL	6	1737	1739	2			1	
	7000	SAOP	22	1743.1		106.8	7.9			
	18	MCMA	41	1820	1822	4			1	
	2800	OTTA	4	1924.1	1925	1.5	13.6	6.8		
	2695	SGMR	46	1924.4	1924.9	1.6	21.8	5.4		
	2695	BOUL	8	1924	1925.5	3	27.0	10.0		
	1420	BOUL	3	1924	1925.5	2	2.0	1.0		
	1415	SGMR	2	1924.8	1925.3	1	2.1	.5		
	4995	SGMR	46	1925.2	1925.4	.6	11.7	2.9		
	4995	SGMR	46		1925.6		5.9			
	2695	SGMR	46		1925.3		10.5			
	245	SGMR	6	2000.7	2002.2	2.9	23.0	5.0		
	245	SGMR	6	2217.2	2218.1	3	18.5	4.5		3
	208	VORO	42	2217	2218	3	130.0			
	410	SGMR	6	2218.2	2218.3	.3	6.0	2.0		3
	200	HIRA	45	2222	2223.2	1.5	210.0	30.0		
	2800	OTTA	20	2306	2320	55	2.0	1.0		
23	100	HIRA	45	0245.6	0246	1.5	80.0	20.0		
	100	GORK	41	0303.3	0303.5	2	80.0			
	100	GORK		0303.3	0305.1		100.0			
	100	HIRA	45	0304.7	0305	.8	120.0	20.0		
	200	GORK	6	0308.9	0309.1	.7	50.0	16.0		
	100	HIRA	45	0308.8	0309	1	90.0	20.0		
	100	GORK	41	0308.2	0308.4	1.5	80.0			
	100	GORK		0308.2	0309.1		100.0D			
	100	GORK	41	0327.2	0327.4	6.1	80.0			
	100	GORK		0327.2	0330.7		100.0D			
	100	GORK		0327.2	0332.4		100.0D			
	200	HIRA	45	0330.5	0330.8	.5	220.0	30.0		
	200	GORK	41	0330.3	0330.9	3	142.0			
	200	GORK		0330.3	0333		50.0			
	100	HIRA	45	0330.4	0330.5	1	80.0	20.0		
	200	HIRA	45	0531.5	0533.5	6	800.0	60.0		
	200	GORK	41	0531.3	0532.2	4.4	280.0			
	200	GORK		0531.3	0533.1		100.0			
	100	HIRA	41	0531	0535	5	120.0			
	100	GORK	48	0531	0535.1	4.8	5000.0			
	260	ONDR	45	0533.5	0533.5	2	65.0			
	29	UPIC	45	0533.5	0534.5	2.5				
	100	GORK	44	0615		405 D		5.0		
	3750	TYKW	1	0620	0621.3	3	6.0	3.0		
	2000	TYKW	1	0620	0621.3	5	3.0	1.0		
	3750	TYKW	29	0623		25	3.0	1.0		
	100	GORK	41	0625.8	0626	2.4	100.0			
	100	GORK		0625.8	0627.2		100.0D			
	260	ONDR	5	0626.5	0626.5	1	55.0			
	200	HIRA	45	0627	0627.5	1	820.0	300.0		
	200	GORK	6	0627.1	0627.4	5	200.0	110.0		
	100	HIRA	45	0627	0627.2	1	70.0	30.0		
	200	HIRA	45	0640	0640.8	1	290.0	40.0		
	200	GORK	6	0640.1	0640.7	.9	300.0	100.0		
	100	GORK	41	0640	0640.2	1	50.0			
	260	ONDR	45	0650	0717.5	33	25.0			
	260	ONDR	5	0822.5	0822.5	1	20.0			
	2800	OTTA	21	1825	1850	50	1.6	0.8		
	2800	OTTA	1	1831.9	1832.3	1.5	5.6	1.9		
	2695	CANR	8	1832.5	1833	1	6.0	2.0		
	2695	BOUL	8	1832.5	1833	1	6.0	2.0		
	2800	OTTA	1	1926.5	1927.5	2	1.8	0.9		
	2695	BOUL	3	1927	1927.5	2	3.0	1.0		
	3750	TYKW	20	2318	2321	15	3.0	1.0		
	3750	TYKW	45	2349	2353.3	6	12.0	5.0		
	1420	BOUL	3	2350.5	2354.5	7	3.0	1.0		
	4995	CRON	45	2351	2353	14.5	13.0	4.0		
	4995	BOUL	21	2351.5	2354	28.5	18.0	6.0		
	2695	CRON	45	2351	2352.5	6.5	8.0	2.0		
	2695	CRON		2351	2354					
	2695	PENT	2	2351.5	2354	4.5	9.2	6.1		
	2000	TYKW	45	2351	2354.2	7	7.0	3.0		
	1420	CRON	45	2351.5	2354	5.5	4.0	1.0		
	2695	BOUL	45	2353	2355	3	7.0	3.0		
	3750	TYKW	29	2355		60	6.0	2.0		
	2695	PENT	29	2356		45	5.0	1.7		
	2000	TYKW	29	2358		45	2.0	1.0		
24	1420	BOUL	45	0025	0025.5	3	2.0	1.0		
	208	VORO	7	0047	0059	14	219.0	44.0		
	1420	BOUL	3	0055.5	0057.5	3.5	2.0	1.0		
	4995	CRON	3	0621.5	0622	2	8.0	3.0		
	9500	BERL	22	0650	0747.6	207	11.0			
	3000	BERL	22	0655	0659.8	68	14.0			
	9400	TYKW	20	0656	0700.5	60	8.0	3.0		
	3750	TYKW	45	0656	0659.7	7	18.0	9.0		
	2000	TYKW	45	0656	0659.8	7	10.0	4.0		
	1500	BERL	3	0656.5	0700.2	102	5.8			

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	2695	CRON	3	0657	0659.5	10	13.0	4.0		
	8800	MANI	4	0659.2	0700.4	14.9	17.5	5.3		
	4995	CRON	3	0659	0700	9.5	15.0	5.0		
	4995	MANI	4	0659.2	0700.4	14.9	20.9	8.9		
	2695	MANI	4	0659.2	0659.9	4.3	10.2	2.5		
	1420	CRON	3	0659	0700.5	3	5.0	2.0		
	1415	MANI	1	0659.2	0700	4.3	4.1	1.0		
	1000	TYKW	45	0659	0700.3	3	1.0	0.5U		
	3750	TYKW	29	0703		55	9.0	4.0		
	2000	TYKW	29	0703		55	3.0	1.0		
	260	ONDR	5	0813.5	0813.5	1	25.0			
	100	GORK	6	0916.1	0917.7U	3.6	100.0D			
	260	ONDR	45	1125	1126	7.5	35.0			
	7000	SAOP	20	1147.9		50.5	5.6			
	2800	OTTA	24	1205		5	1.6			
	7000	SAOP	40	1549.4		111.4	9.1			
	1420	BOUL	3	1633	1635	2	1.0			
	2695	CANR	8	1735.5	1736	1	6.0	2.0		
	4995	CANR	3	1736	1737.5	1.5	10.0	3.0		
	1420	CANR	8	1737	1737.5	1	3.0	1.0		
	18	BOUL	42	1750	1758	8			1	
	2700	PENN	20	1812.8	1818.6	74.6	20.1	8.0		
	4995	SGMR	20	1813.5	1818.2	12.8	11.2	4.5		
	2800	OTTA	21	1813	1835	107	6.4	3.3		
	4995	CANR	3	1815.5	1817.5	6	10.0	3.0		
	2695	CANR	3	1815.5	1817.5	5.5	11.0	3.0		
	18	BOUL	41	1815	1820	6			1	
	2695	SGMR	3	1816.5	1818.1	6.9	13.4	6.7		
	1420	CANR	45	1816.5	1819	6.5	4 .0	1.0		
	1420	CANR	45	1816.5	1820.5	6.5	4.0	1.0		
	1415	SGMR	1	1816.6	1820	6.3	4.8	1.9		
	2800	OTTA	2	1817	1818	7	8.4	4.0		
	1420	BOUL	45	1817	1820	9.5	5.0	2.0		
	2695	BOUL	45	1818	1819	5	7.0	2.0		
	1420	BOUL	3	2059.5	2102	3.5	2.0	1.0		
	208	VORO		2114	2124	10	76.0	32.0		
	208	VORO	48	2137	2140	4	108.0	72.0		
	2695	PENT	24	2210		120	3.6			
	208	VORO	48	2220	2225	8	216.0	80.0		
25	3750	TYKW	20	0005	0030	85	4.0	2.0		
	3750	TYKW	20	0140	0159	80	6.0	3.0		
	2000	TYKW	20	0157	0200	75	2.0	1.0		
	9400	TYKW	20	0320	0340	40	4.0	2.0		
	3750	TYKW	20	0330	0340	60	1.0	0.5U		
	3750	TYKW	1	0507.5	0508.1	1.5	4.0	1.0		
	2000	TYKW	1	0507.5	0508	1.5	1.0	0.5U		
	3750	TYKW	20	0620	0656.7	100	7.0	2.0		
	9400	TYKW	20	0640	0700	60	4.0	2.0		
	4995	CRON	21	0653	0656.5	12.5	7.0	2.0		
	100	GORK	48	0804.5	0805.3	3.8	200.0			
	100	GORK		0804.5	0806.6		100.0			
	260	ONDR	45	0827.5	0832.5	9	35.0			
	2800	OTTA	20	1104	1106	15	1.8	0.9		
	18	MCMA	41	1138	1142	4			1	
	2800	OTTA	24	1147		8	1.4			
	18	MCMA	6	1231	1233	3			1	
	18	MCMA	6	1238	1240	2			1	
	4995	BOUL	45	1304	1304.5	5.5	34.0	8.0		
	260	ONDR	45	1320	1322.5	6	80.0			
	7000	SAOP	24	1348.4			5.6			
	2800	OTTA	1	1459.5	1500	1.5	1.4	0.7		
	2800	OTTA	20	1620	1635	27	1.4	0.7		
	2800	OTTA	21	1740		45	1.2	0.6		
	2800	OTTA	1	1812	1814	8	1.4	0.7		
	245	SGMR	43	1928.2	1930.4	275.8D	81.1			
26	200	HIRA	45	0309.7	0310.2	1.5	45.0	10.0		
	100	GORK	48	0709.9	0710.5	2.8	150.0D			
	100	GORK		0709.9	0711.9		150.0D			
	200	GORK	6	0713	0713.2	.4	17.0			
	18	MCMA	6	1112	1113	2			2	
	2800	OTTA	1	1308	1310	7	1.0	0.5		
	7000	SAOP	32	1539.6		6.8	5.7			
	225	HARS	5	1837	1838	2	60.0	20.0		
	18	BOUL	6	2227	2229	3			1	
27	100	HIRA	45	0055	0056.9	4.5	85.0	20.0		
	950	GORK	1	0514.9	0515.1	.4	6.5	3.2		
	200	GORK	6	0515	0515.2	.8	35.0	15.0		
	260	ONDR	45	0652	0653	1.5	40.0			
	204	KIEV	6	0652.2	0652.7	1	27.0			
	200	GORK	6	0652.3	0652.6	.8	65.0	30.0		
	100	GORK	6	0652.4	0652.9	.8	25.0			
	260	ONDR	45	0717	0719	5	85.0			
	234	POTS	45	0719.6	0719.8	.6	130.0	30.0		
	210	IZMI	6	0719.2	0719.5	.8	160.0	100.0		
	204	KIEV	6	0719.2	0719.9	2.4	53.0			
	200	HIRA	45	0719.5	0719.8	.5	150.0	80.0		
	200	GORK	6	0719.2	0719.6U	10	400.0	200.0		

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				UT	UT	MINUTES	PEAK	MEAN		
27	100	HIRA	5	0719.5	0719.7	1	75.0	15.0		
	100	GORK	6	0719.5	0719.6	.5	100.0D			
	950	GORK	3	0826.2	0826.3	.3	7.6	3.8		
	650	GORK	3	0826.2	0826.5	.6	6.1	3.0		
	100	GORK	6	0914.1	0914.2	.3	60.0	30.0		
	2830	ARCE	22	1141.8	1206.7	58.5				
	9285	ARCE	22	1157.7	1204.1	40 U				
	1500	BERL	22	1201	1203.1	5	3.7			
	536	ONDR	45	1201.5	1202.5	3	70.0			
	3000	BERL	22	1202	1204.7	18	4.5			
	2800	OTTA	21	1202	1203.5	11	3.0	1.5		
	2800	OTTA	1	1204.5	1204.9	1	2.2	1.1		
	2800	OTTA	20	1315	1330	55	1.6	0.8		
	2800	OTTA	21	1415	1520	210	1.6	0.8		
	245	SGMR	43	1507	1723.9	539 D	34.5			
	18	MCMA	6	1521	1522	2			1	
	260	ONDR	45	1604	1606.5	5.5	50.0			
	2830	ARCE	2	1606.1	1607.6	2.5				
	2800	OTTA	40	1606	1606.5	2	9.7			
	2695	SGMR	2	1606.2	1606.6	2.1	5.3	2.0		
	1420	CANR	8	1606.5	1607	2.5	6.0	2.0		
	1420	BOUL	45	1606	1606.5	2	9.0	3.0		
	1415	SGMR	2	1606.3	1606.8	3	7.1	3.0		
	606	SGMR	4	1606.2	1606.7	2.6	43.9	8.0		
	536	ONDR	45	1606	1607	2.5	40.0			
	410	SGMR	6	1606.3	1606.5	3.1	23.2	4.0		
	245	SGMR	6	1606.3	1606.9	3.4	62.3	12.0		
	225	HARS	45	1606.5	1607	1.5	100.0	30.0		
	18	MCMA	6	1606	1609	5			3	
	29	UPIC	45	1607.5	1608	2.5				
	18	MCMA	6	1615	1617	2			1	
	29	UPIC	45	1645.5	1647	2				
	18	MCMA	41	1645	1648	6			3	
	18	MCMA	6	1830	1832	2			2	
	200	HIRA	45	2013.5	2014	1	85.0	20.0		
	1420	BOUL	3	2155	2157	4.5	1.0			
	2695	PENT	1	2304.5	2306.5	4	3.8	1.9		
	2695	BOUL	3	2305	2306.5	5	5.0	2.0		
	1420	BOUL	3	2305	2306	4	1.0			
28	650	GORK	4	0332	0332.2	.6	5.8			
	8800	MANI	8	0500.5	0501	.9	109.0	21.8		
	260	ONDR	45	0535.5	0536	1.5	65.0			
	18	MCMA	4	1157	1205	8			1	
	2800	OTTA	24	1240		5	2.8			
	7000	SAOP	22	1245.2		157 U	6.7			
	950	GORK	3	1246	1246.1	1.2	2.6	1.3		
	2800	OTTA	26	1410		20	2.1			
	7000	SAOP	40	1530 E		55 U	5.7			
	7000	SAOP	22	1734.9		14.3	6.8			
	4995	BOUL	3	1735	1742	17	9.0	3.0		
	2800	OTTA	23	1735	1742	25	3.2	1.8		
	1420	BOUL	3	1735	1736	2	1.0			
	2695	BOUL	3	1737.5	1741	16	5.0	1.0		
	2800	OTTA	1	1740.6	1741	1	1.6	0.8		
	2800	OTTA	32	1905	1915	35	-2.0	-1.0		
	18	MCMA	6	1952	1953	2			2	
	18	MCMA	6	2138	2140	2			2	
	18	MCMA	41	2247	2248	2			2	
29	260	ONDR	45	0654.5	0655	1.5	110.0			
	18	MCMA	6	1246	1247	2			1	
	2800	OTTA	24	1500		70	2.6			
	2800	OTTA	24	2020		50	1.8			
30	200	GORK	41	0317.3	0317.5	3	70.0			
	200	GORK		0317.3	0319.6		90.0			
	100	GORK	41	0317.3	0317.5	3.5	100.0			
	100	GORK		0317.3	0320		100.0			
	260	ONDR	45	0607	0610	10	30.0			
	200	GORK	41	0607.8	0608.4	2.7	140.0			
	200	GORK		0607.8	0610.3		80.0			
	100	GORK	41	0607.8	0608.5	2.8	100.0			
	100	GORK		0607.8	0610.3		100.0			
	260	ONDR	45	0652.5	0657	7.5	75.0			
	200	GORK	41	0653.5	0653.9	4.3	170.0			
	200	GORK		0653.5	0657.8		300.0			
	100	HIRA	45	0653.5	0653.8	1.5	90.0	20.0		
	100	GORK	41	0653.6	0654.1	4.7	120.0			
	100	GORK		0653.6	0657.5		120.0			
	100	HIRA	45	0657	0657.6	1	90.0	10.0		
	100	GORK	41	0814.8	0814.9	.8	100.0			
	100	GORK		0814.8	0815.3		60.0			
	1500	BERL	1	0833.2	0833.5	.7	2.9			
	260	ONDR	45	0912	0913	2.5	55.0			
	200	GORK	41	0912.9	0913	1.6	240.0			
	200	GORK		0912.9	0913.3		400.0			
	100	GORK	48	0912.9	0913.5	1.6	400.0			
	234	POTS	45	0913.3	0913.3	.2	350.0	70.0		
	225	HARS	45	0913	0914	2	80.0	25.0		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

MAY 1973

MAY 1973	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	REMARKS
	210	IZMI	6	0913	0913.5	1	250.0	70.0		
	100	HIRA	45	0913	0913.5	2	230.0	60.0		
	29	UPIC	45	0913	0914.5	2.5				
	23	POTS	45	0913.1	0913.5	2.1	60000.0	6000.0		
	221	ABST	3	0917.5	0918.2	1.5	57.0	9.0		
	1500	BERL	1	0920.5	0920.6	.5	2.0			
	200	GORK	41	0939	0939.2	1.4	250.0			
	200	GORK		0939	0939.8		400.0			
	200	GORK		0939	0940.3		200.0			
	7000	SAOP	22	1635.8		23.4	8.0			
	18	MCMA	41	1813	1815	3			1	
	18	MCMA	6	1815	1816	2			1	
	4995	CANR	3	1832.5	1837	6	9.0	4.0		
	2695	CANR	3	1837	1837.5	1	5.0	2.0		
	1420	CANR	3	1838.5	1839	1.5	2.0	1.0		
	4995	CANR	45	1910	1910.5	2.5	15.0	4.0		
	2695	CANR	45	1910.5	1911	3	8.0	2.0		
	1420	CANR	45	1910.5	1911	5	4.0	1.0		
	960	PENN	45	2046.8	2048.5	2.4	102.0	11.1		
	2700	PENN	3	2047.4	2047.8	.6	10.2	3.4		
31	950	GORK	1	0825	0825.2	.6	2.8	1.4		
	260	ONDR	5	1245.5	1245.5	.5	25.0			
	18	BOUL	6	1803	1805	2			1	
	18	MCMA	6	1803	1805	2			2	
	18	BOUL	6	1912	1915	3			1	

Observatories:

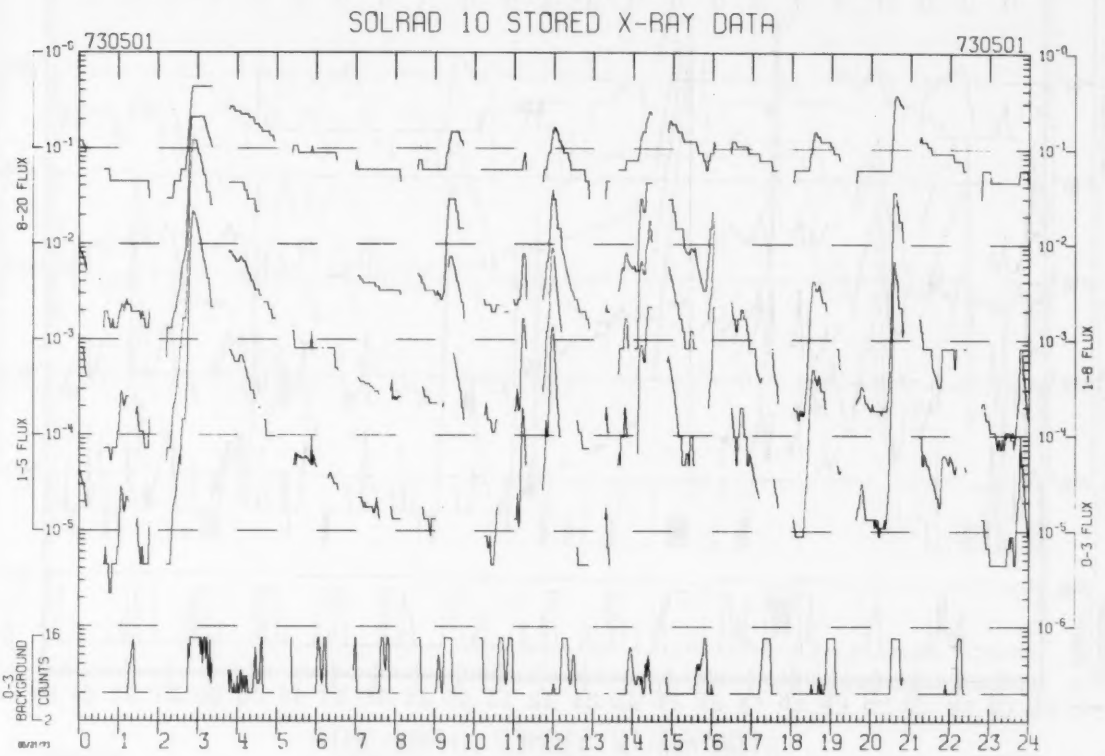
ABST = Abastumani
ARCE = Arcetri
BERL = Berlin-Adlershof
BORD = Bordeaux
BOUL = Boulder
CANR = Canary Islands
CRIM = Simferopol
CRON = Carnarvon
GORK = Gorky
HARS = Harestua
HIRA = Hiraiso
DWIN = Dwingeloo
HUAN = Huancayo
IRKU = Irkutsk
IZMI = Moscow IZMIRAN
KIEV = Kiev
MANI = Manila
MCMA = McMath-Hulbert
ONDR = Ondrejov
OTTA = Ottawa ARO
PENN = Penn. State Univ.
PENT = Penticton
POTS = Potsdam
SAOP = Sao Paulo
SLOU = Slough
SGMR = Sagamore Hill
TRST = Trieste
TYKW = Toyokawa
UPIC = Upice
VORO = Voroshilov

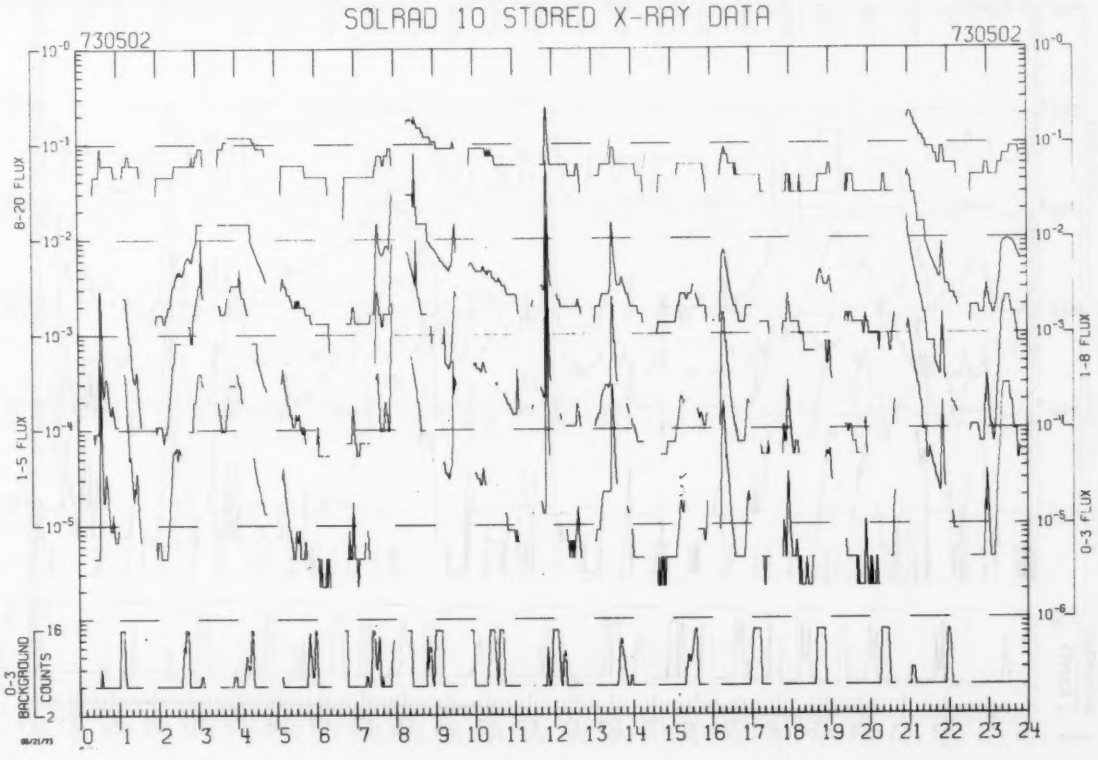
Explanation of Type Code:

1 Simple 1
2 Simple 1F
3 Simple 2
4 Simple 2F
5 Simple
6 Minor
7 Minor +
8 Spike
20 Simple 3
21 Simple 3A
22 Simple 3F
23 Simple 3AF
24 Rise
25 Rise A
26 Fall
27 Rise and Fall
28 Precursor
29 Post Burst Increase
30 Post Burst Increase A
31 Post Burst Decrease
32 Absorption
40 Fluctuation
41 Group of Bursts
42 Series of Bursts
43 Onset of Noise Storm
44 Noise Storm in Progress
45 Complex
46 Complex F
47 Great Burst
48 Major
49 Major +

SOLAR X-RAYS MEASURED BY SATELLITE SOLRAD 10 - EXPLORER 44

MAY 1973





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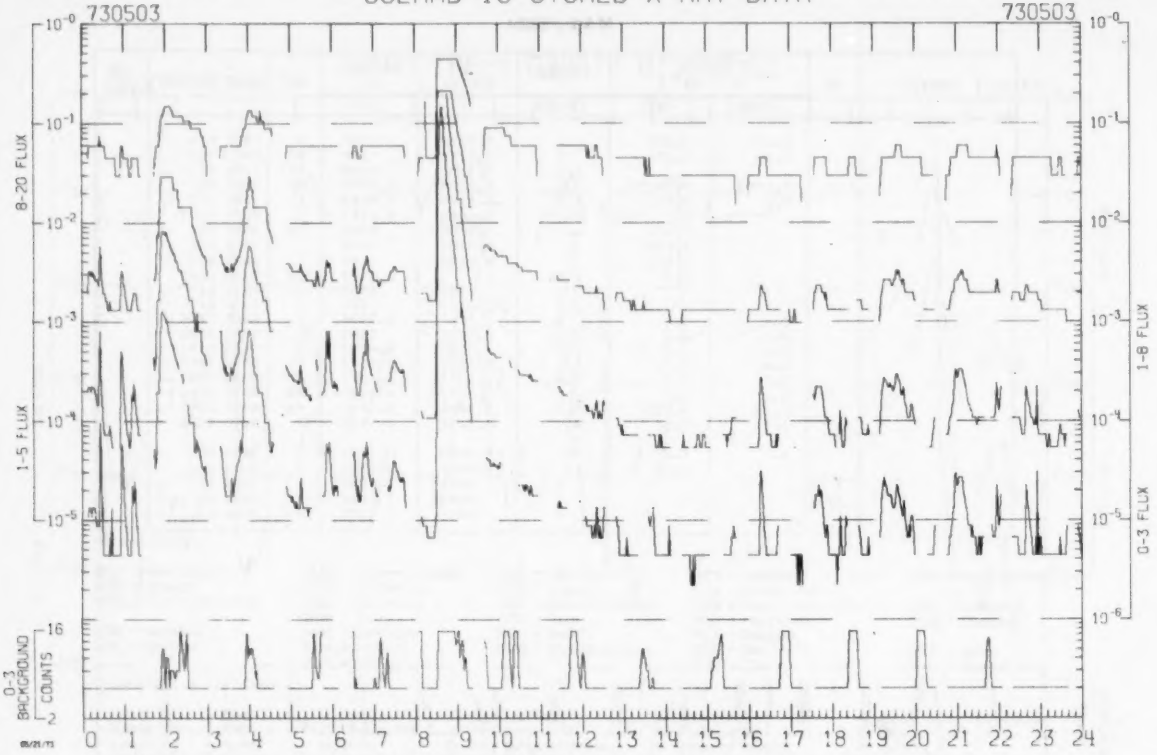

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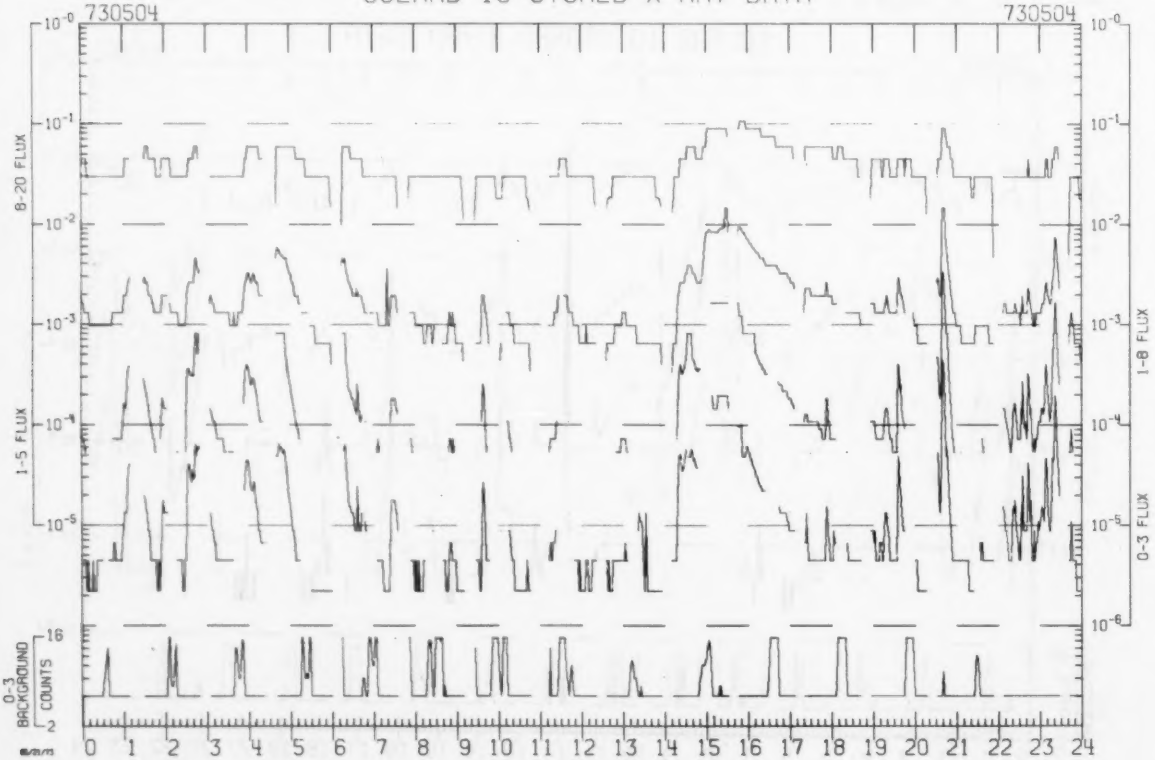

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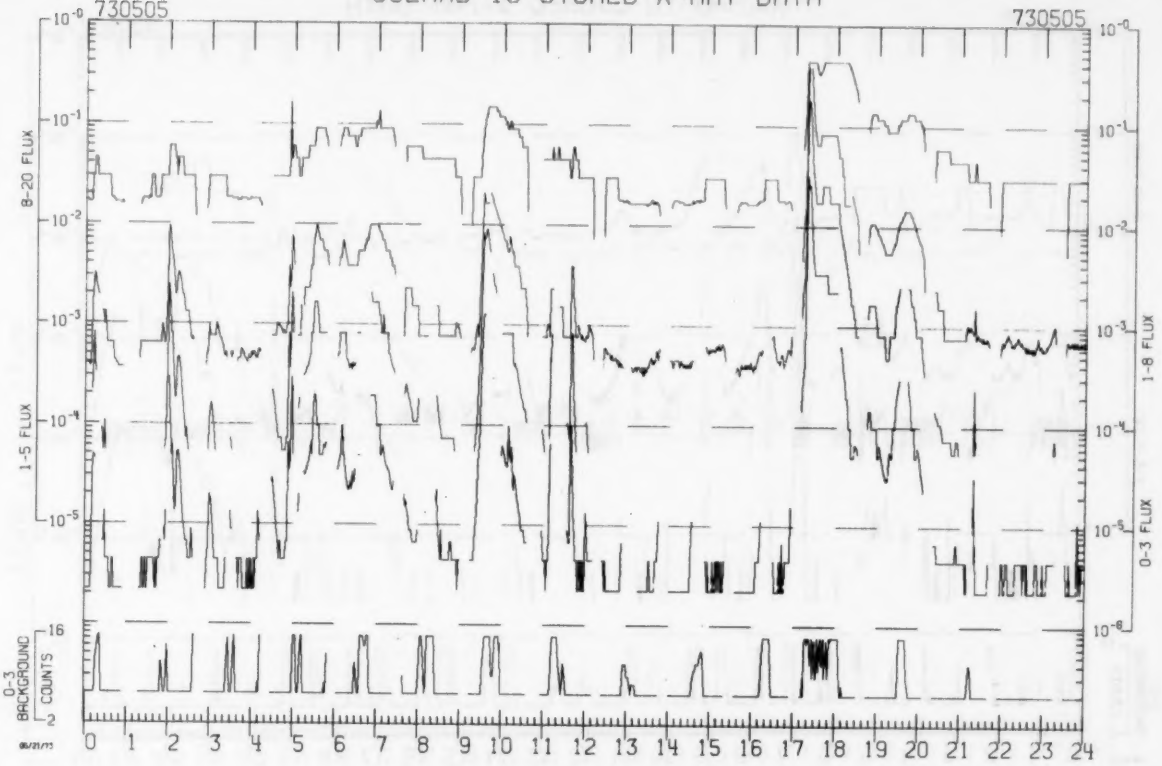

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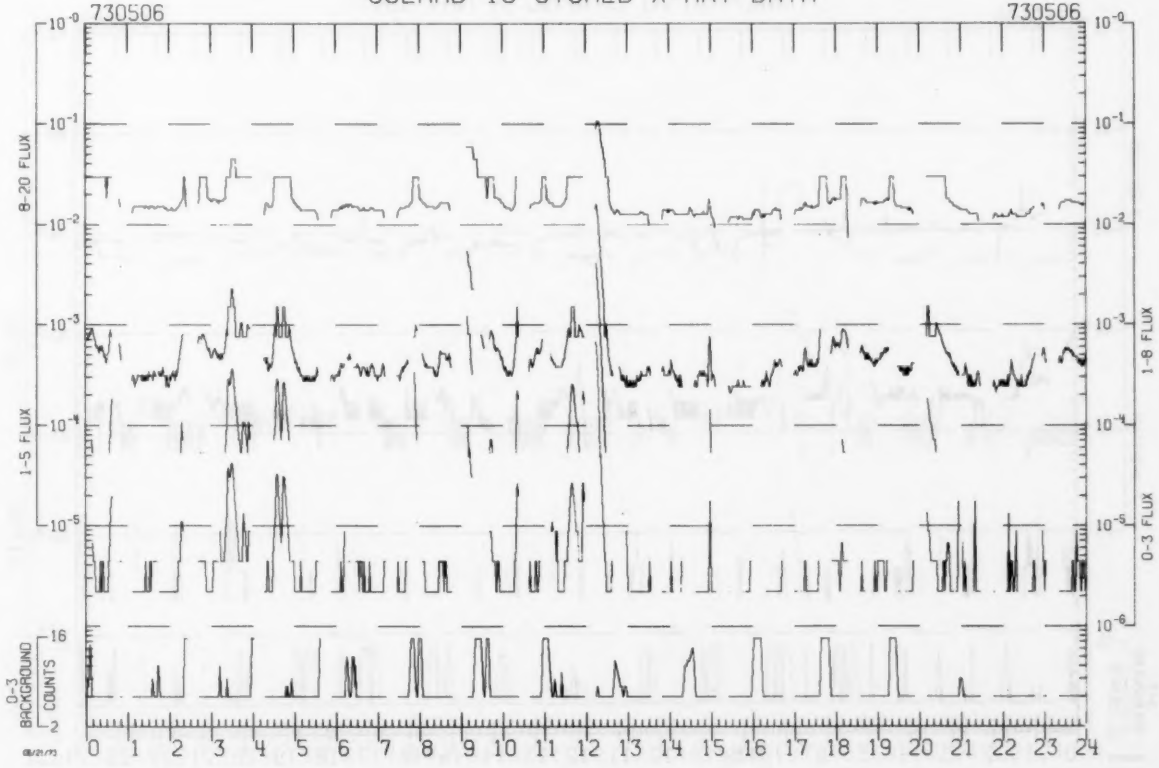

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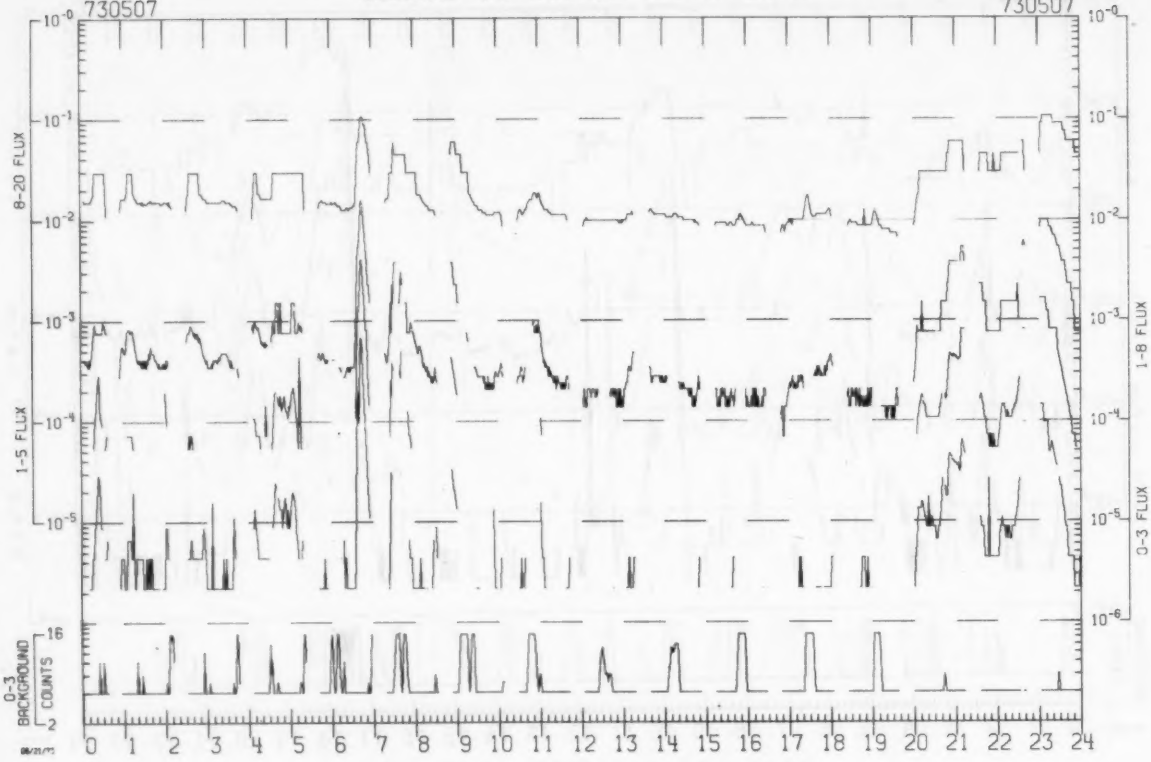

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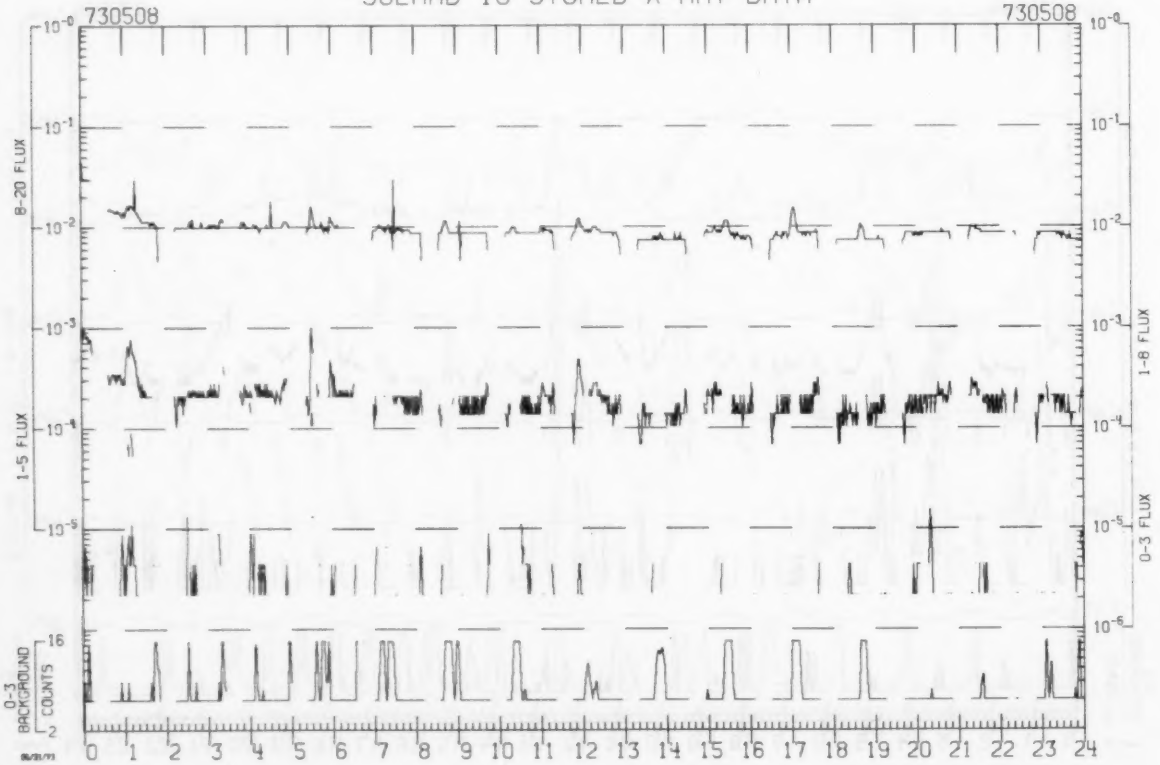

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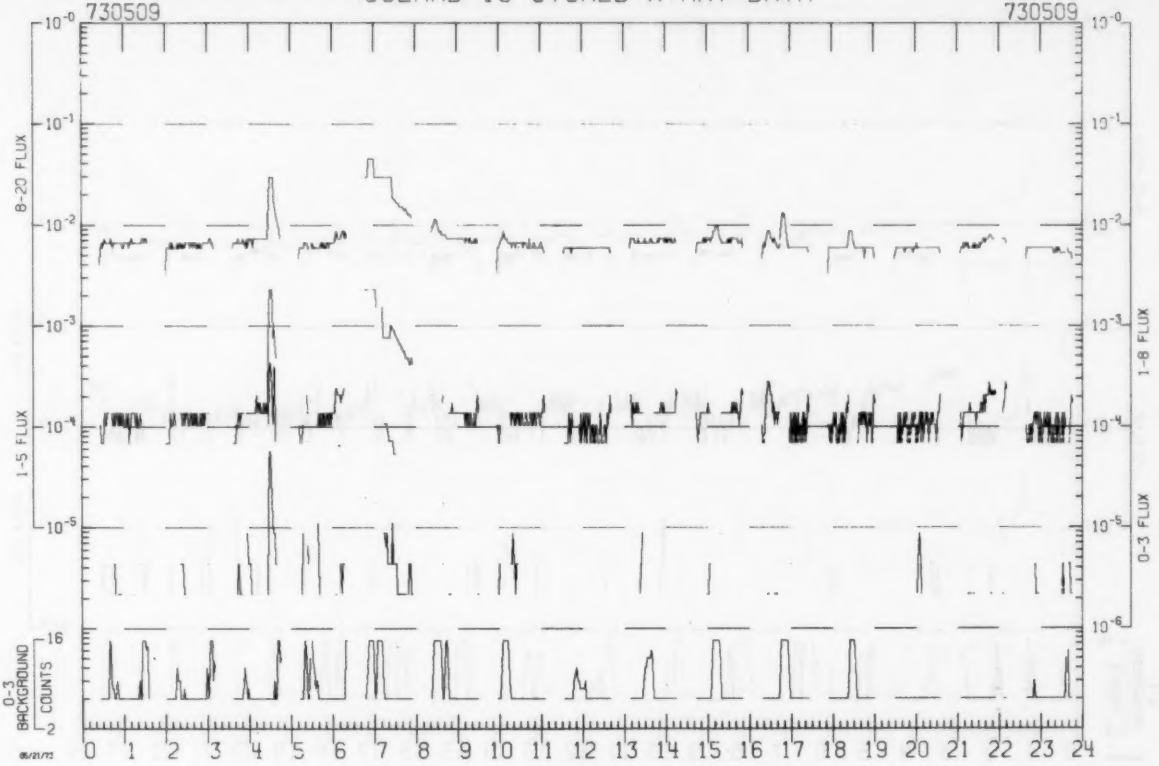

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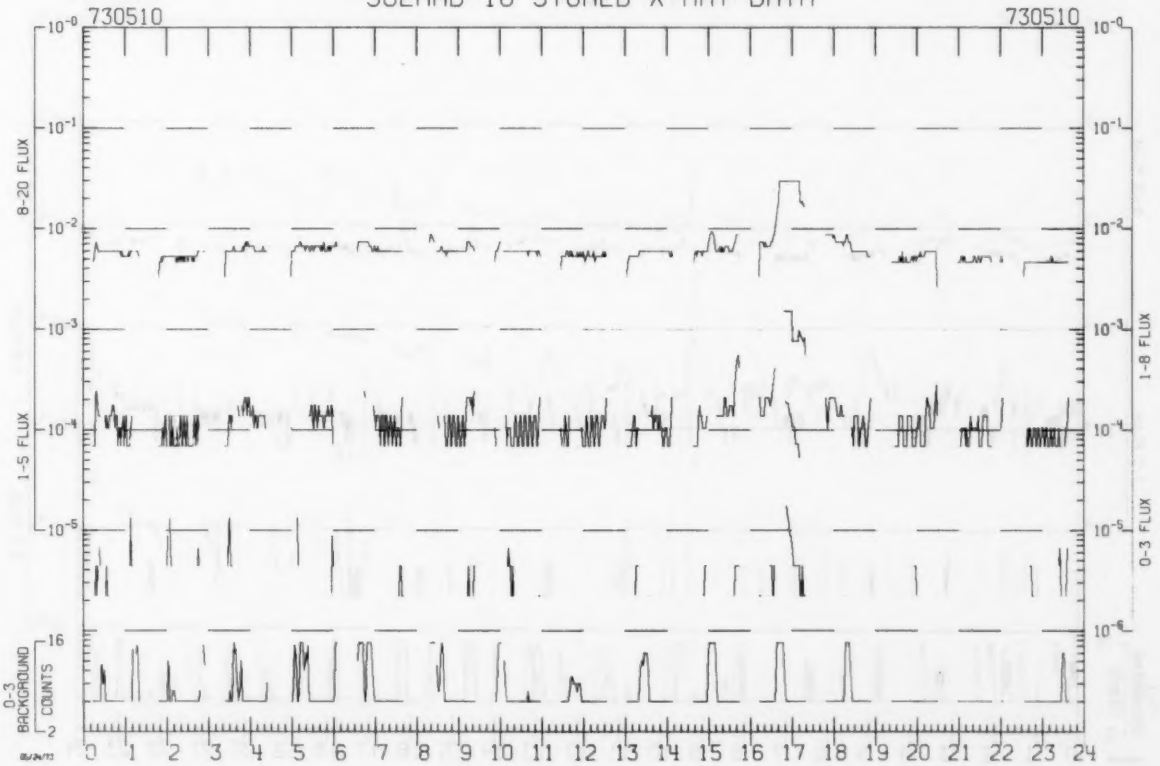

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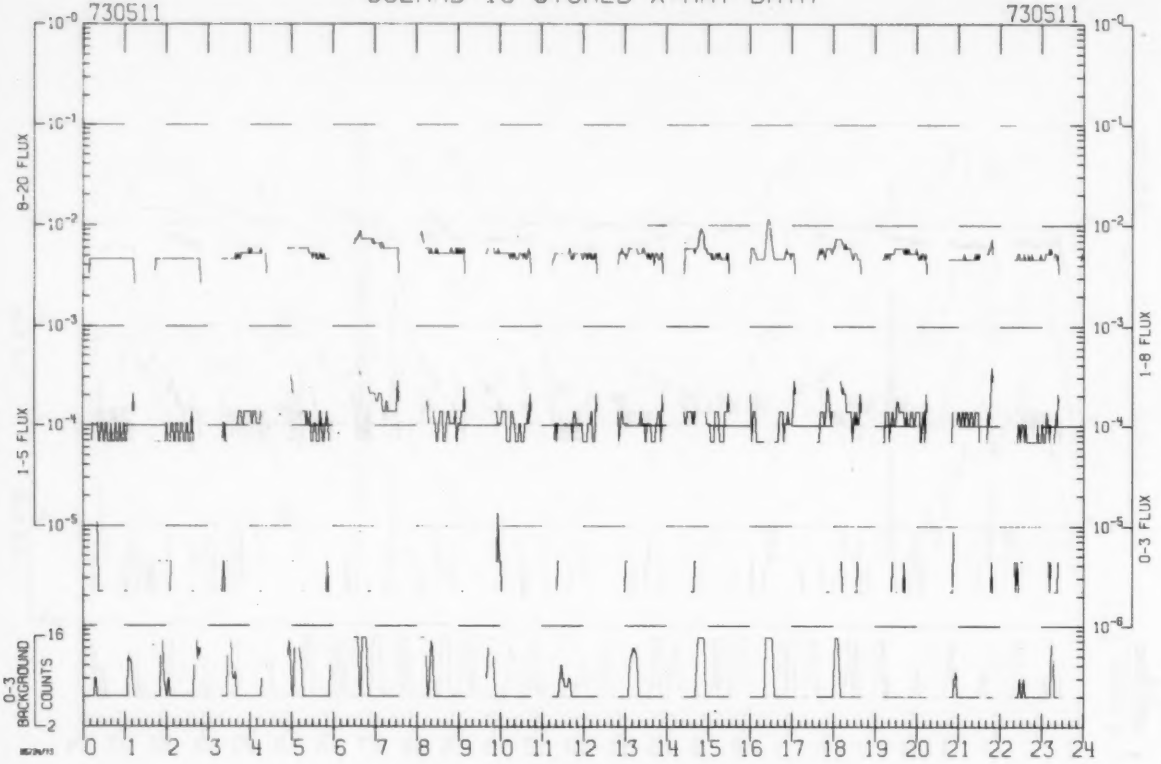

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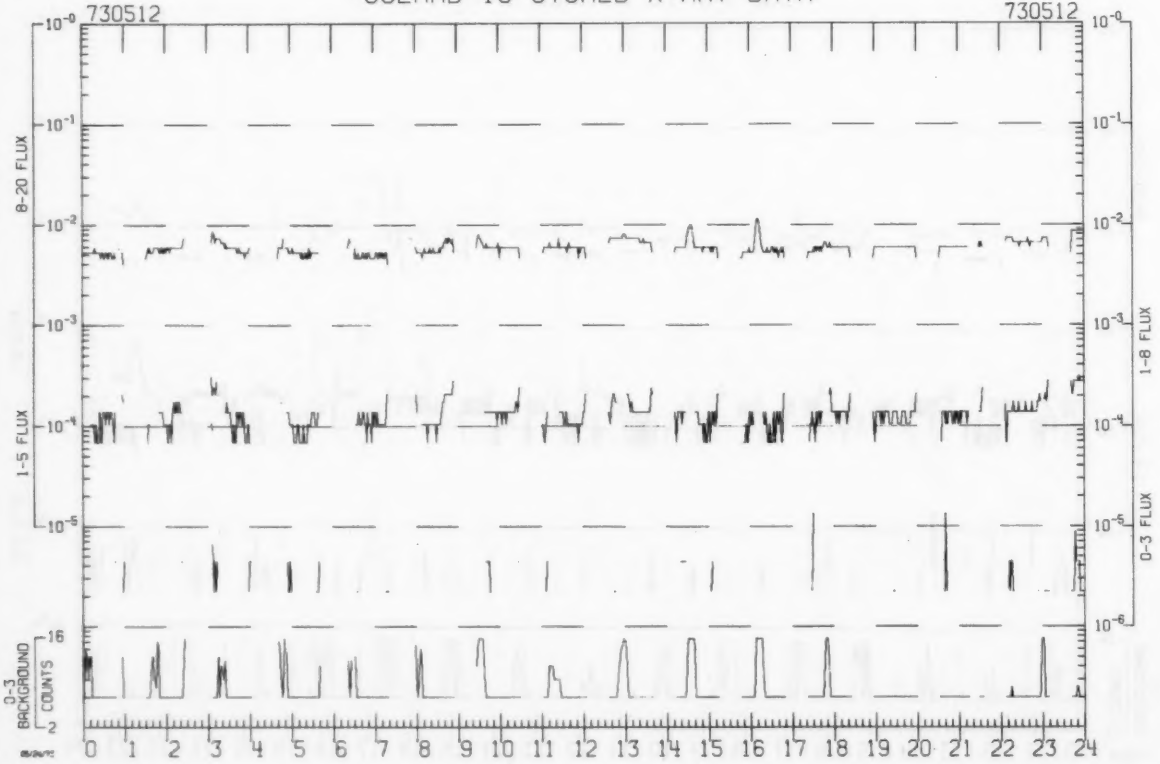

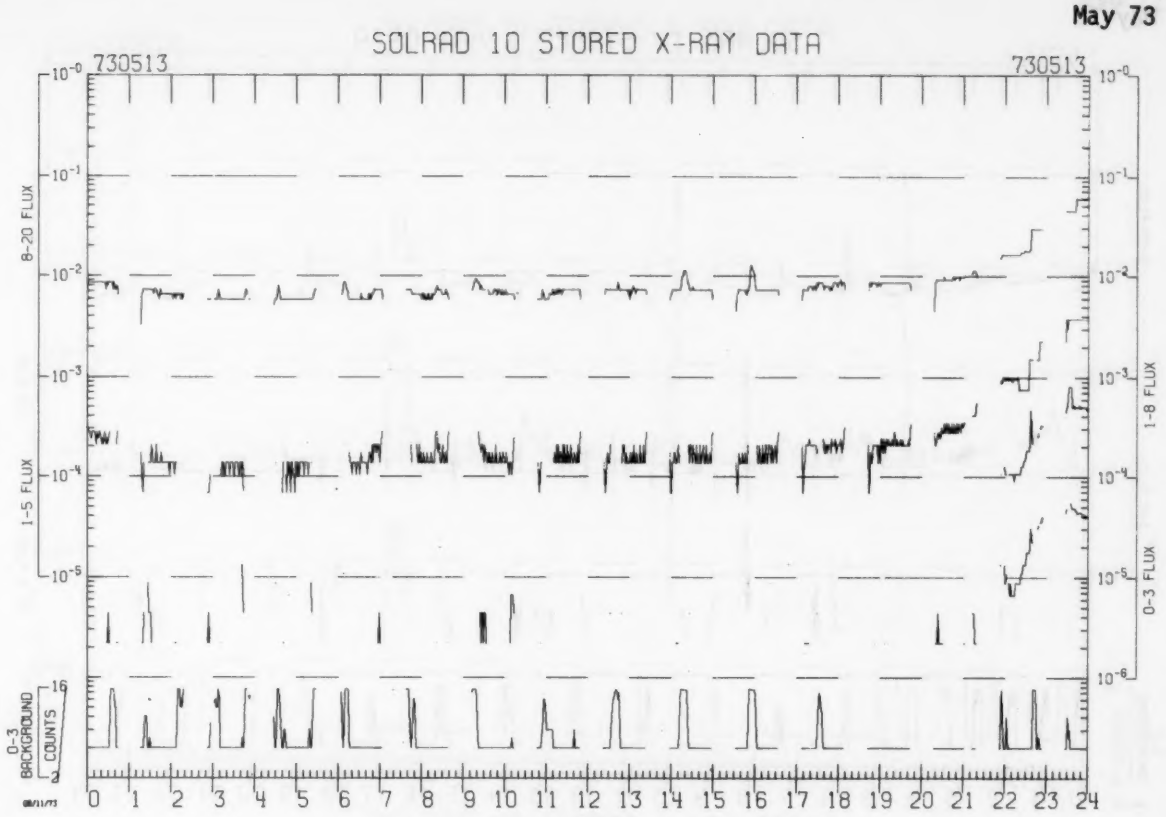
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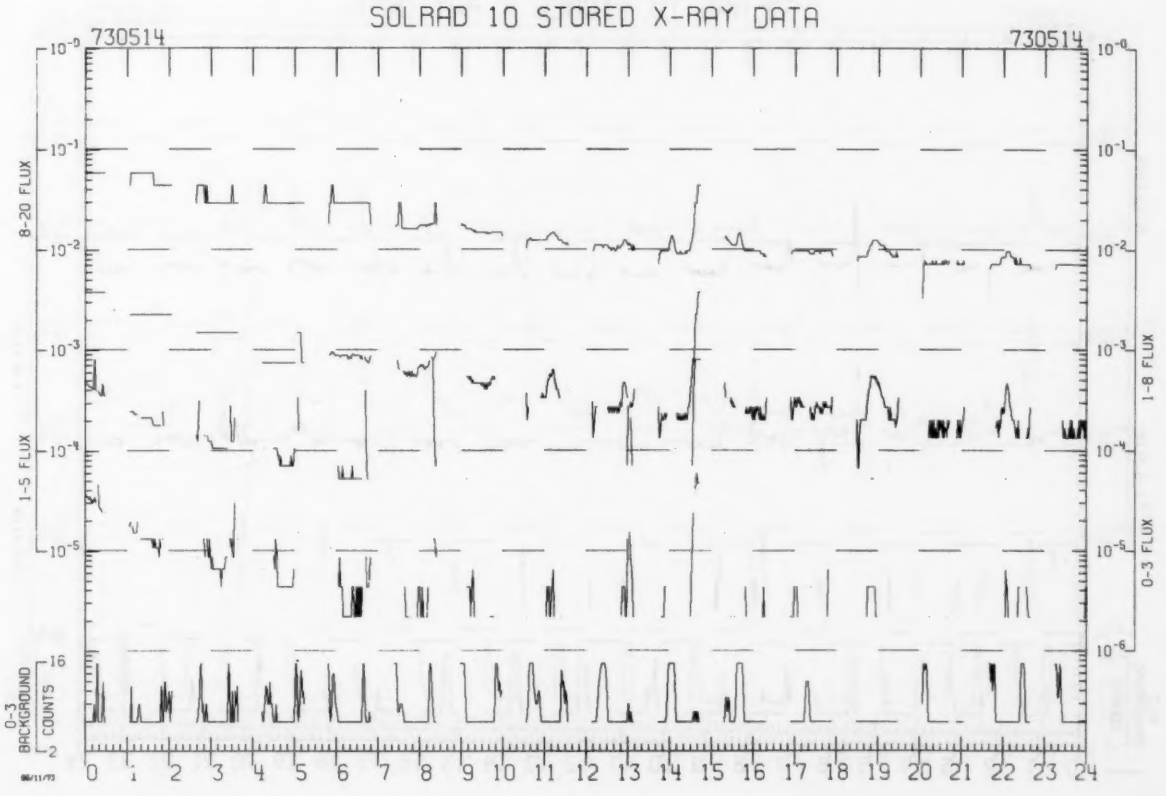
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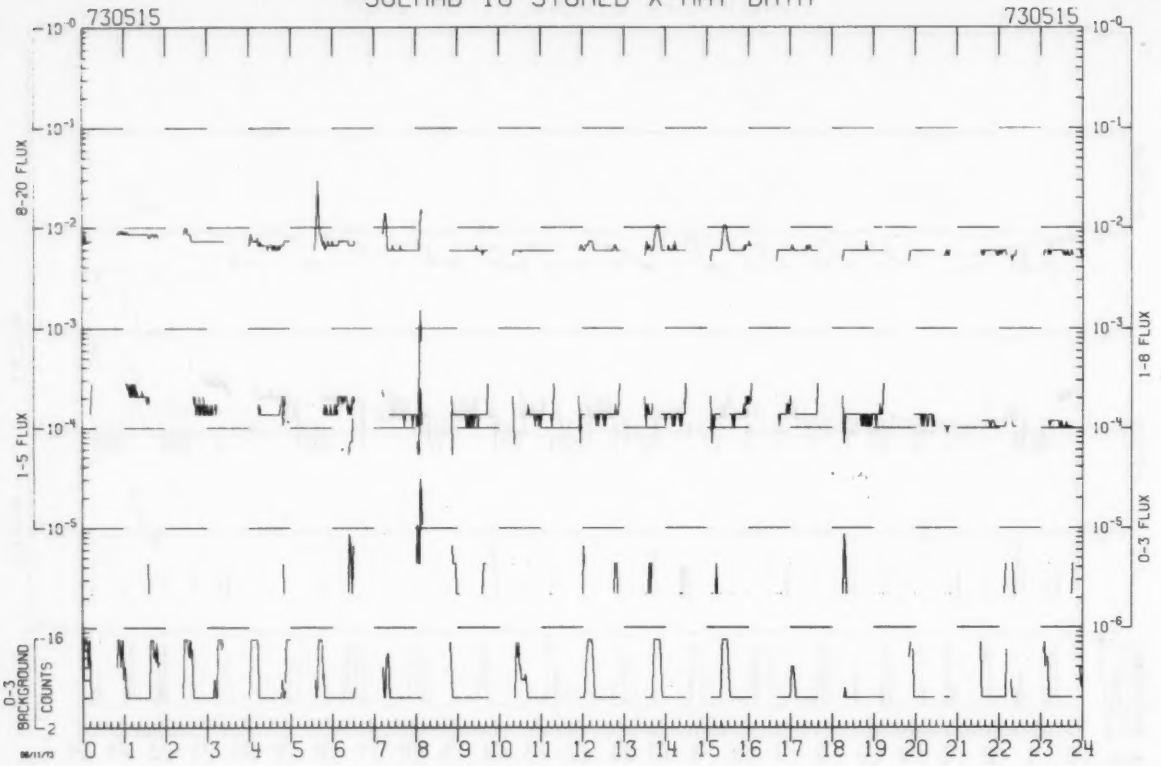

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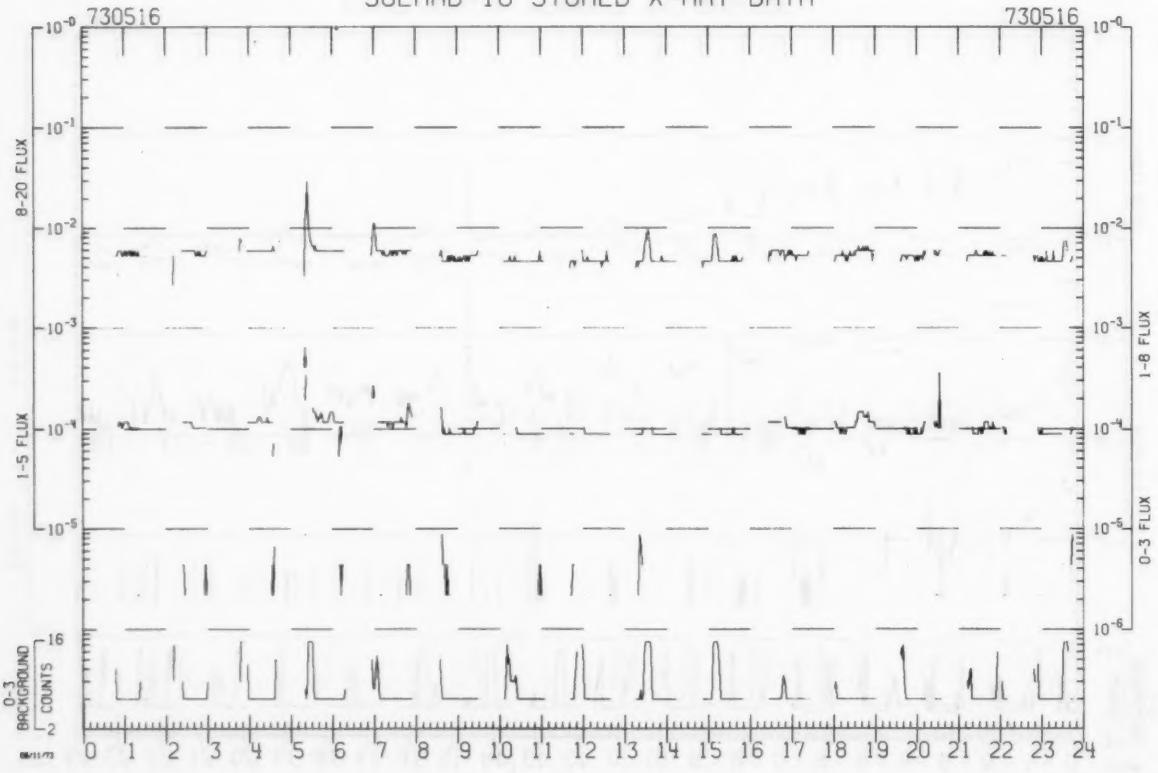

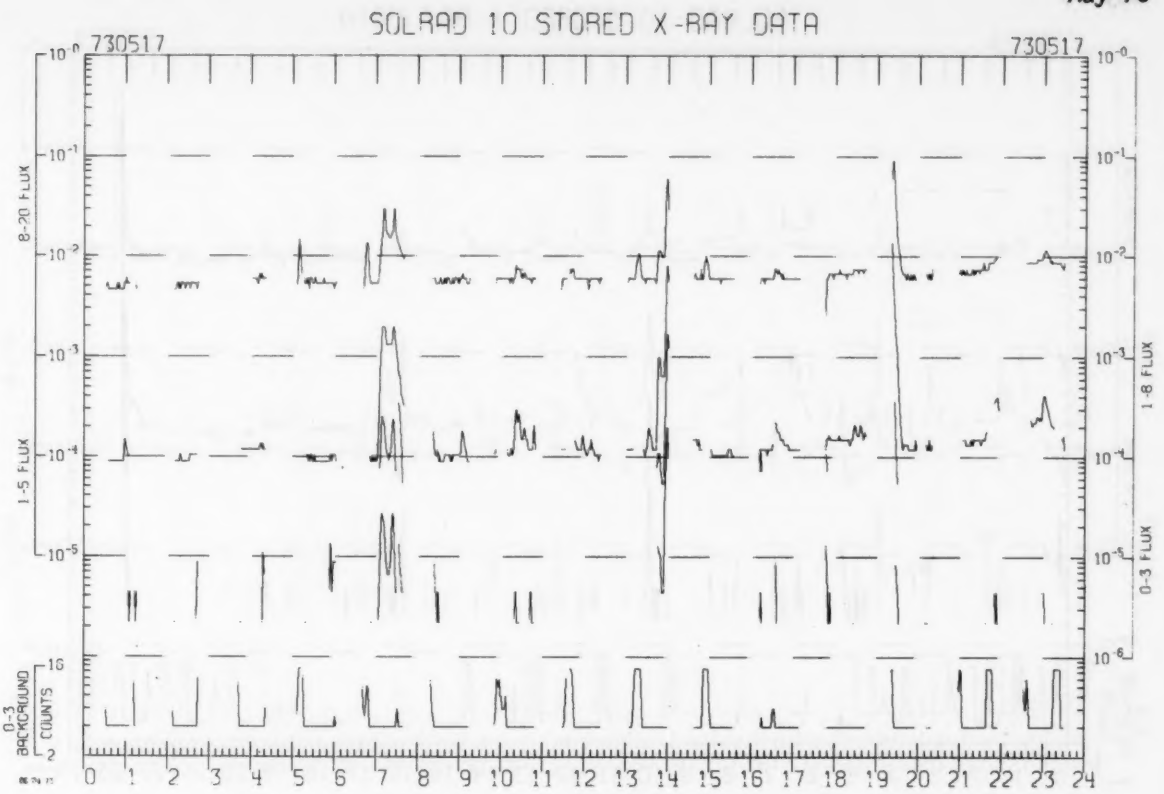
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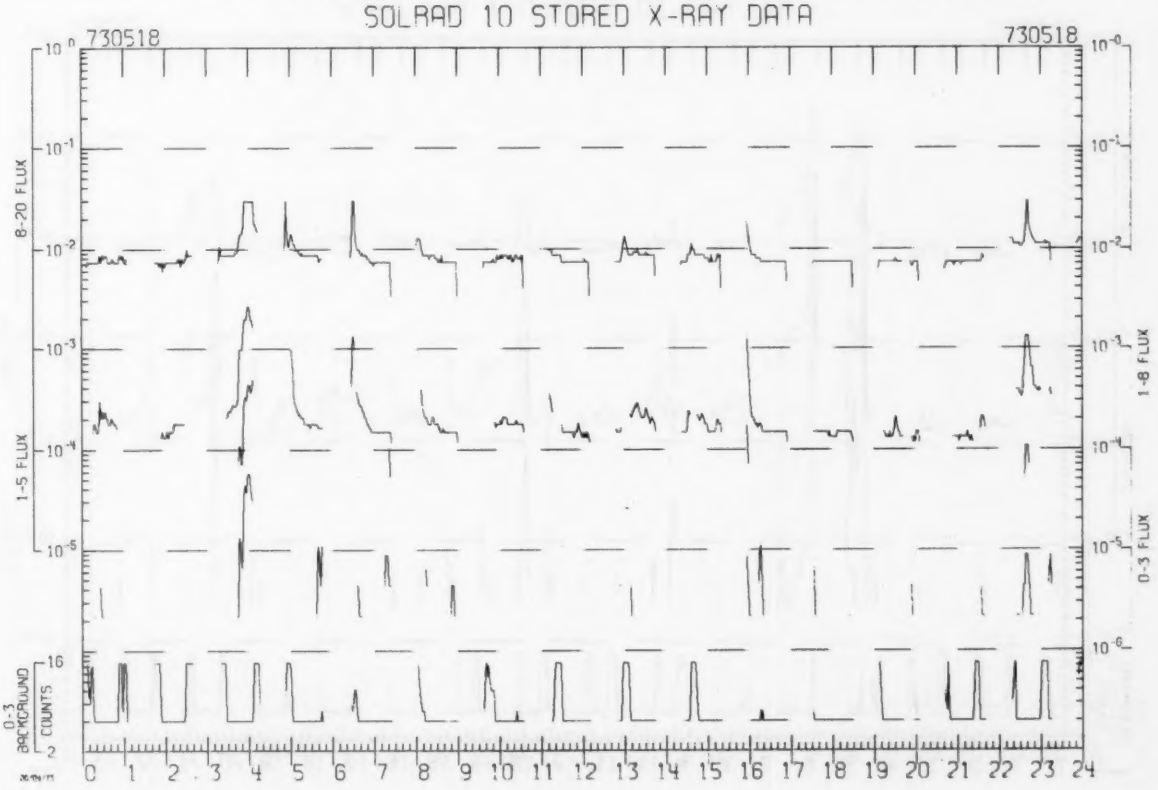
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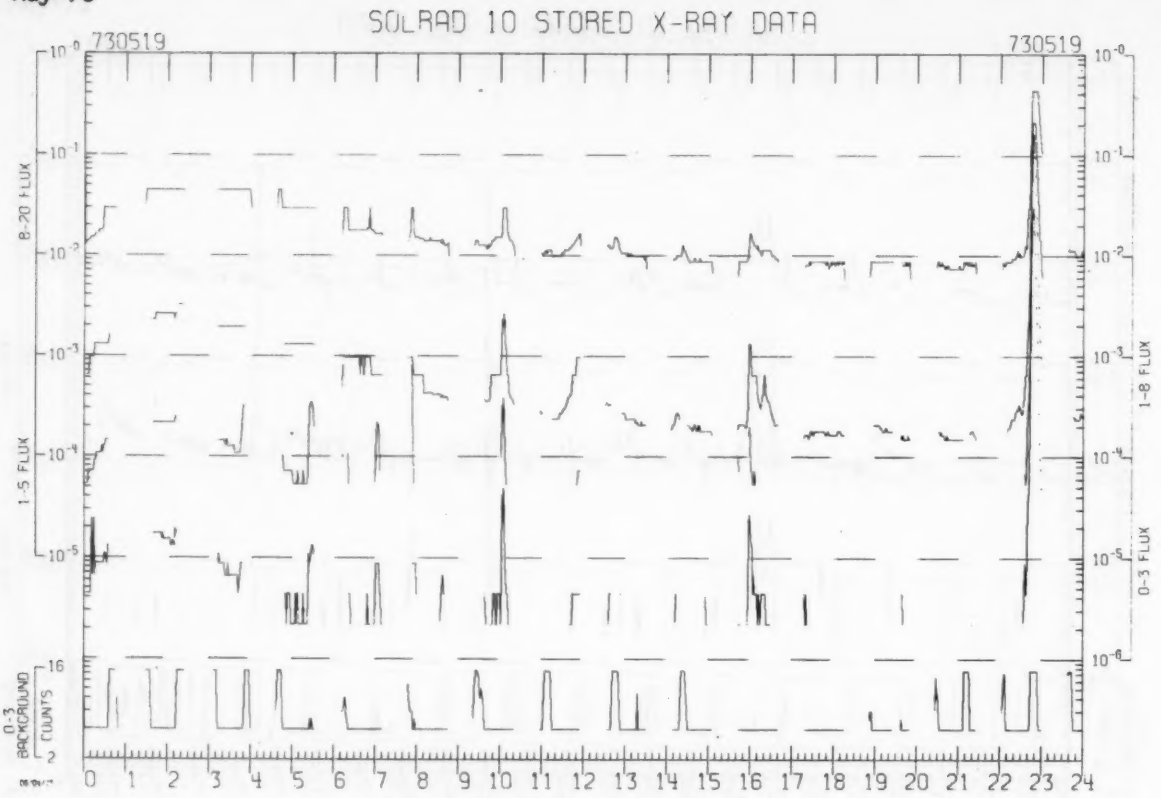
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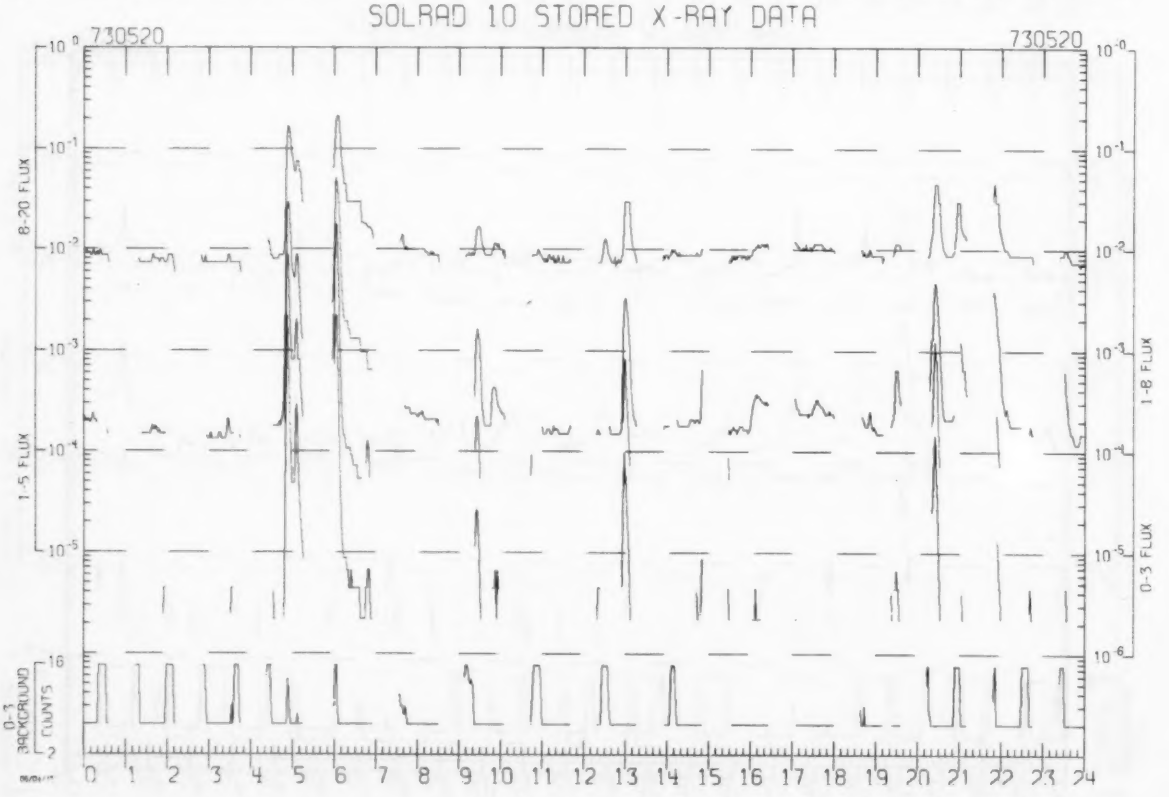
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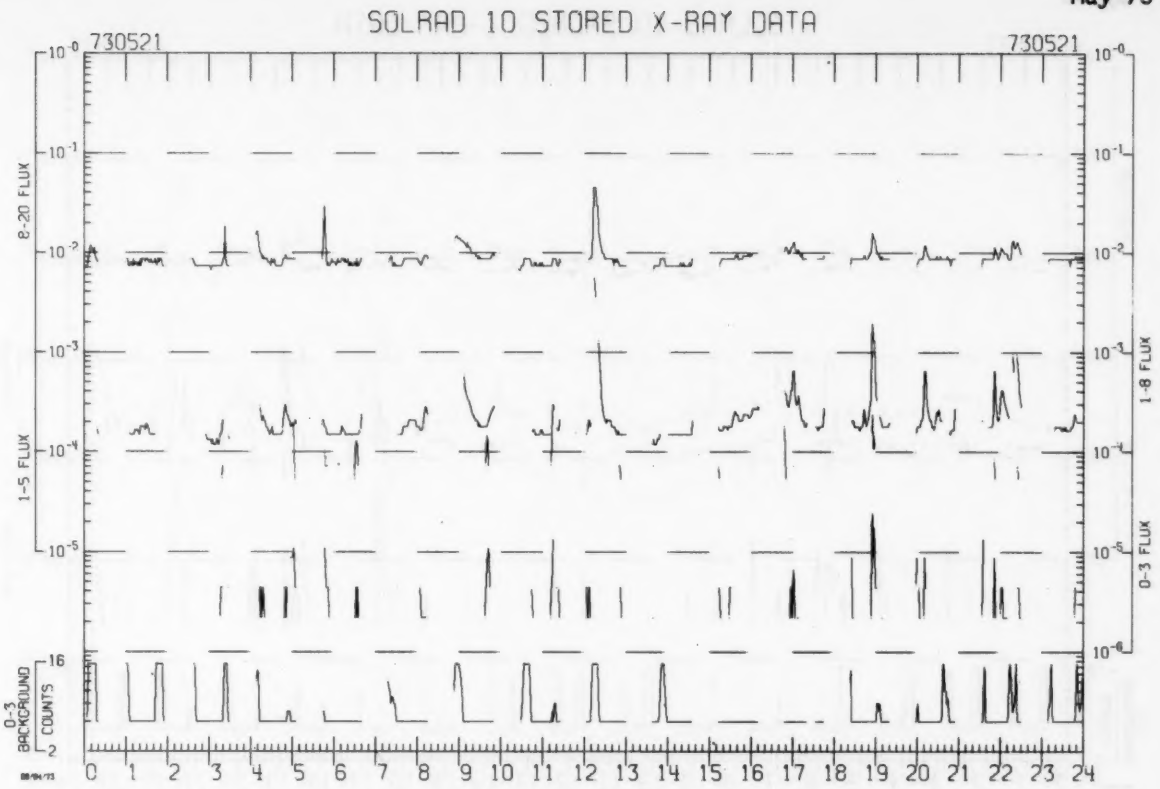
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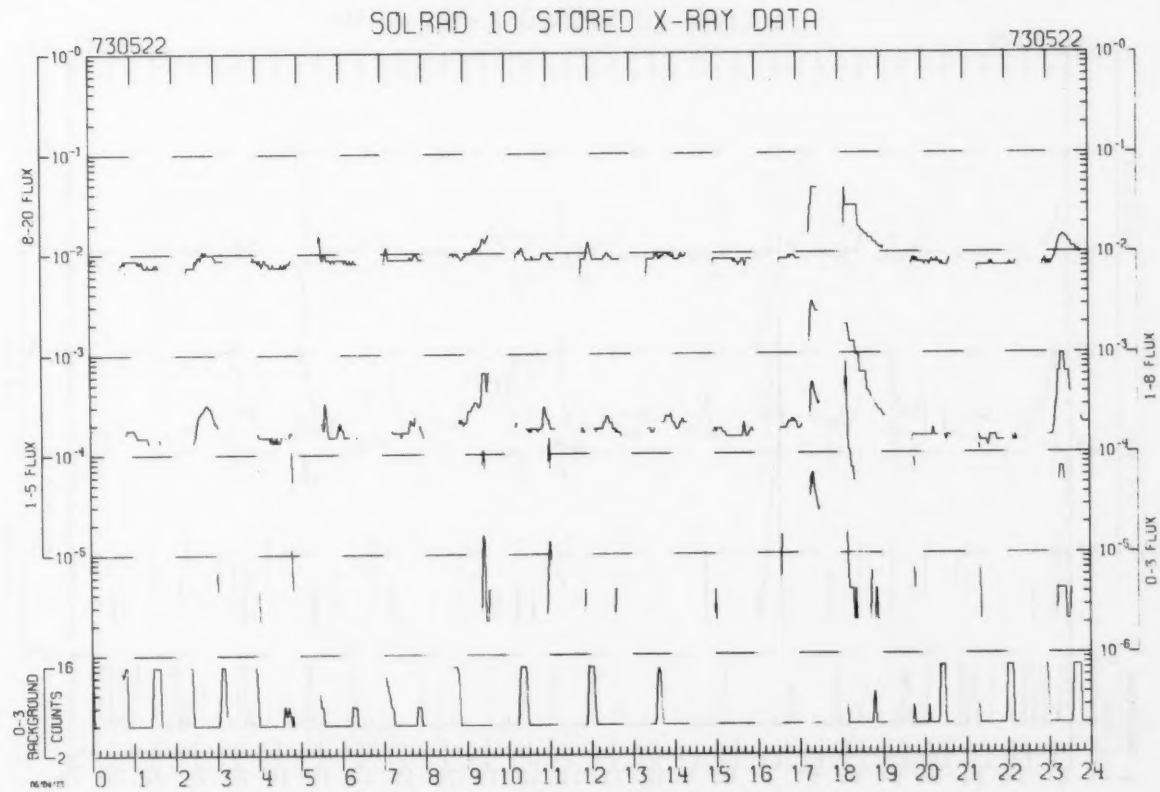
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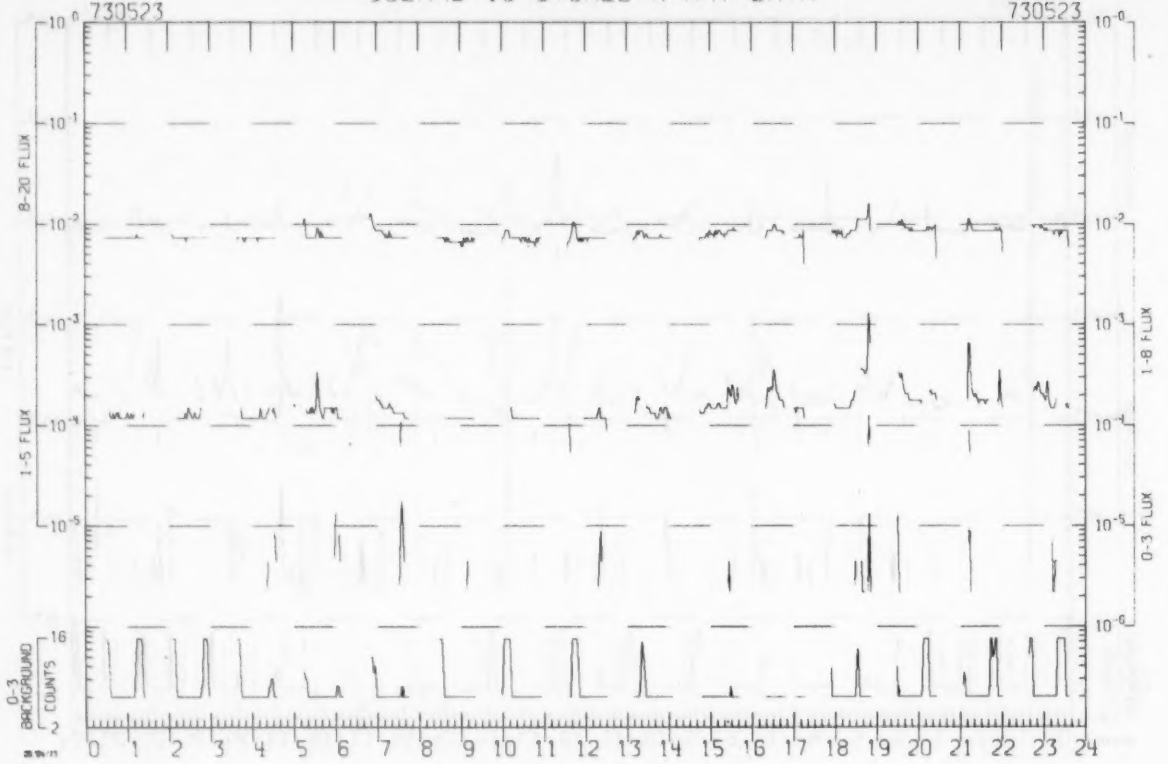

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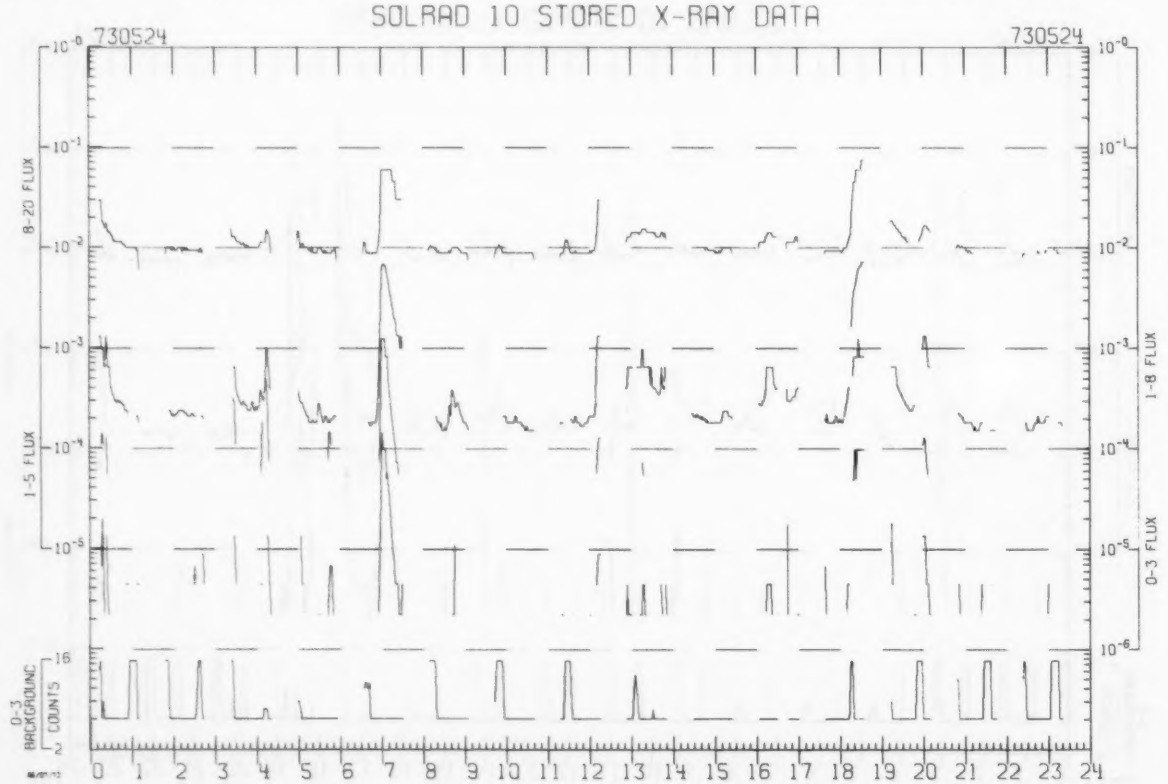

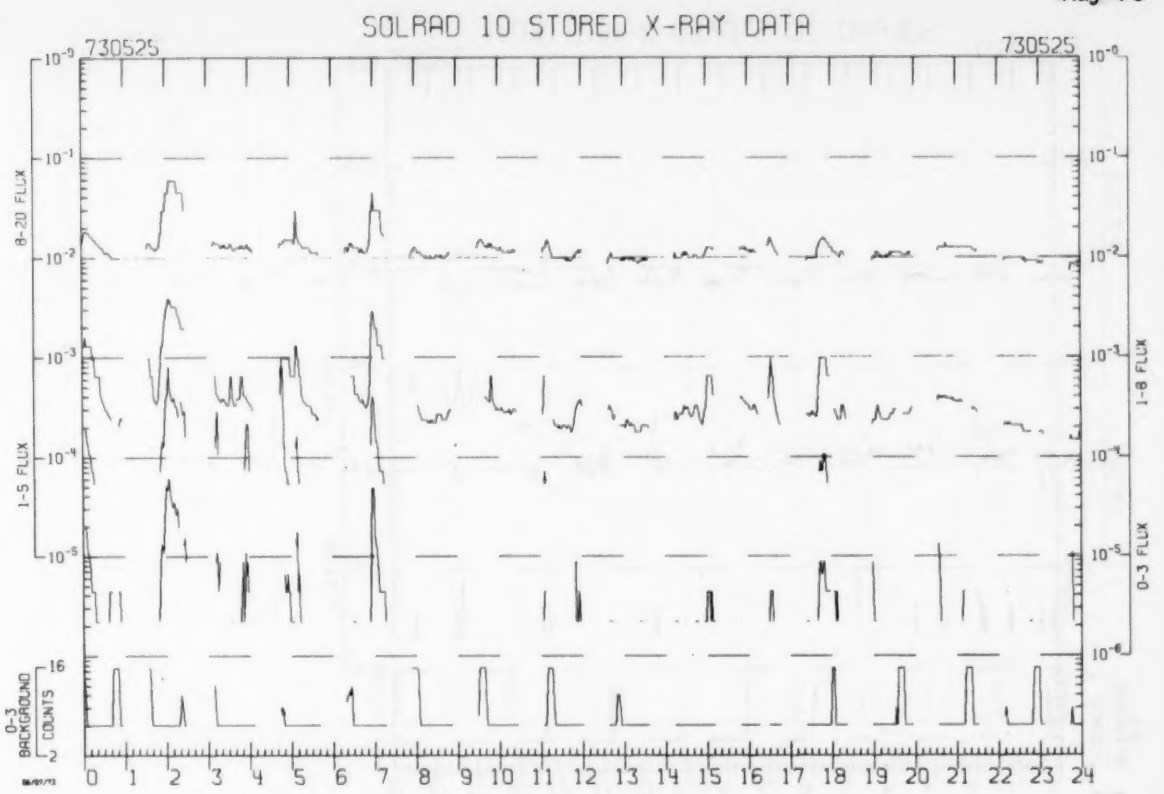
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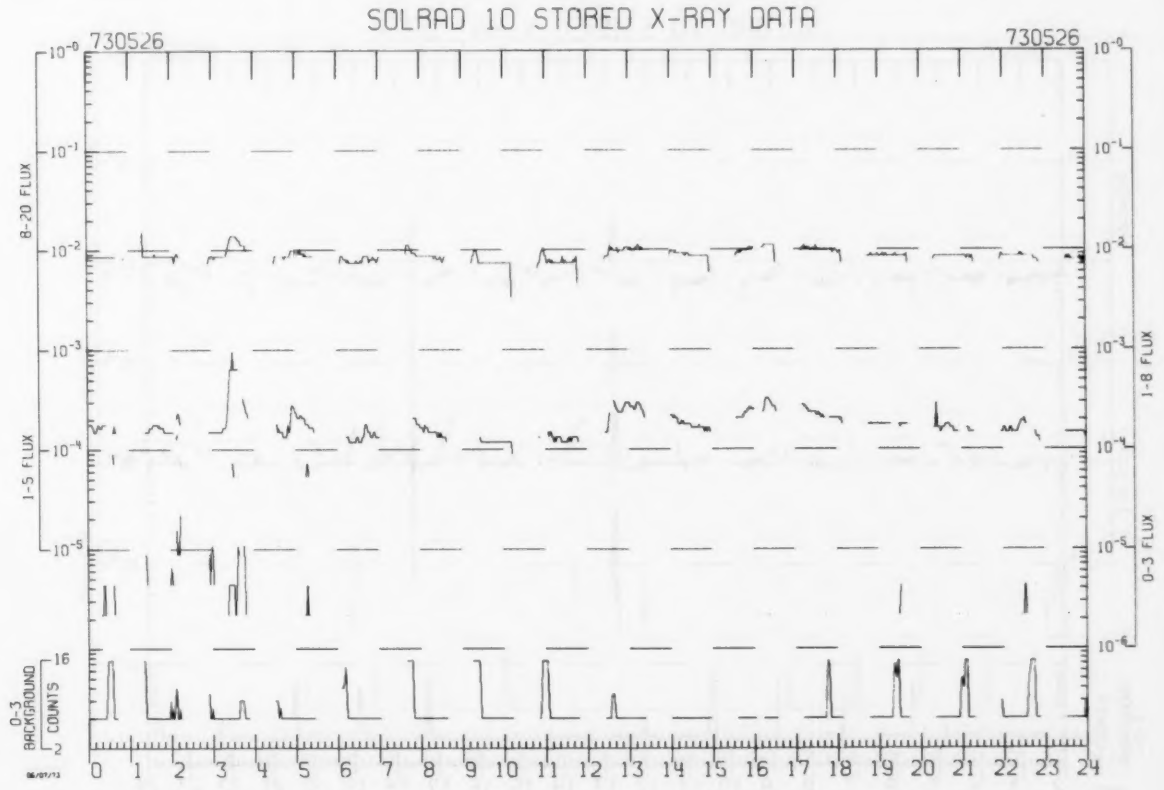
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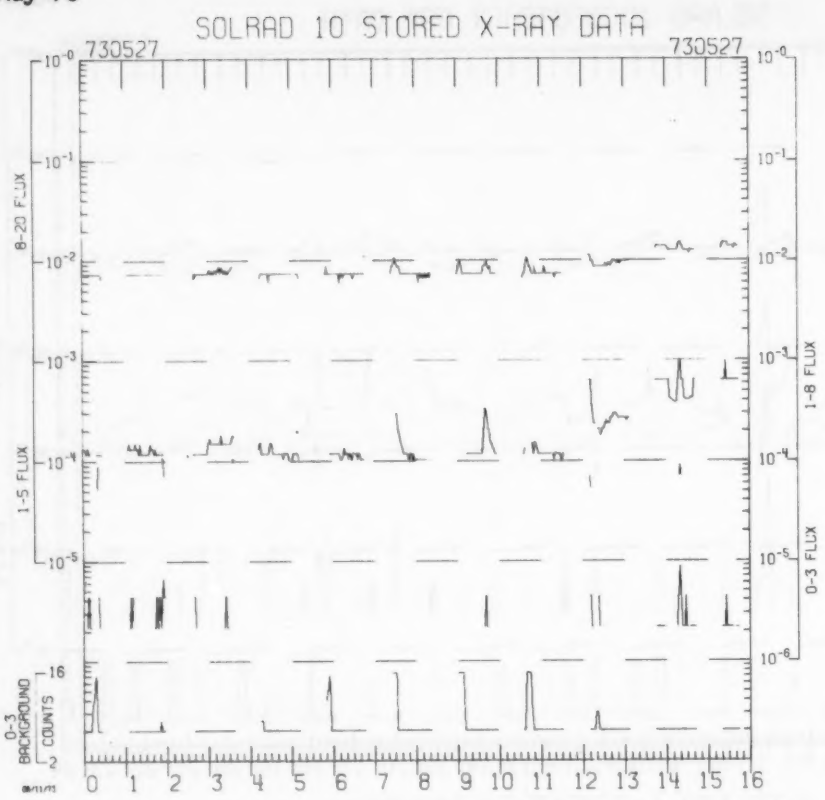
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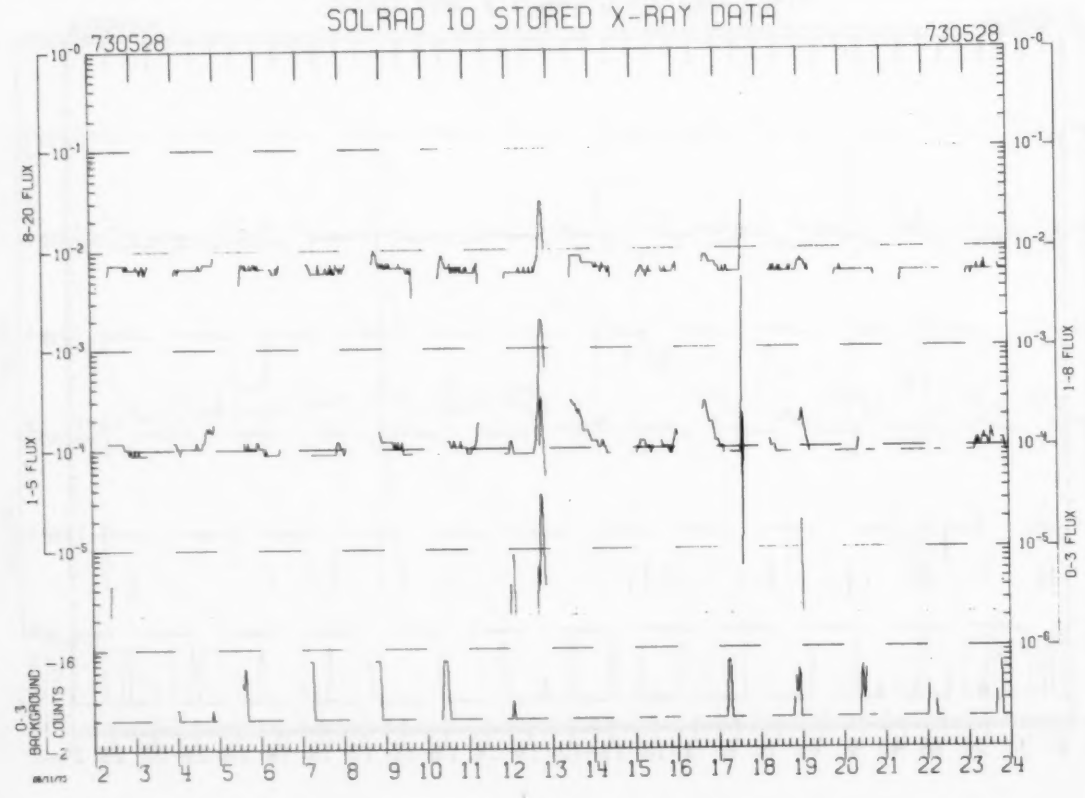
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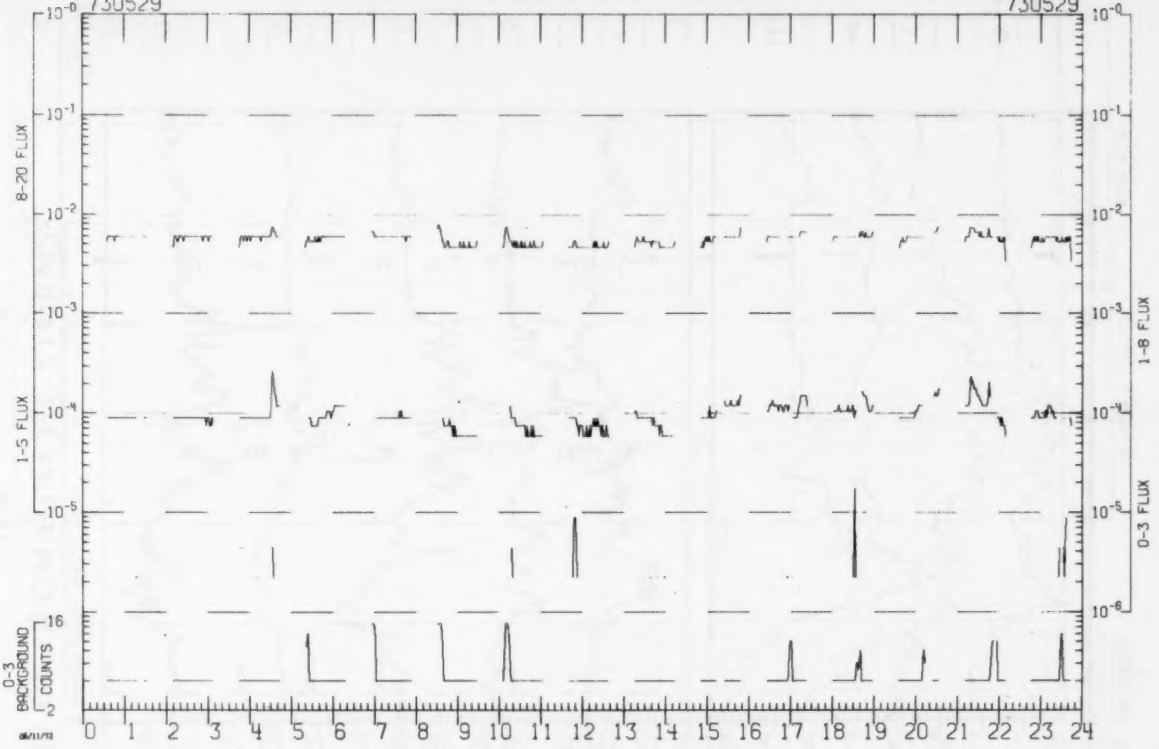

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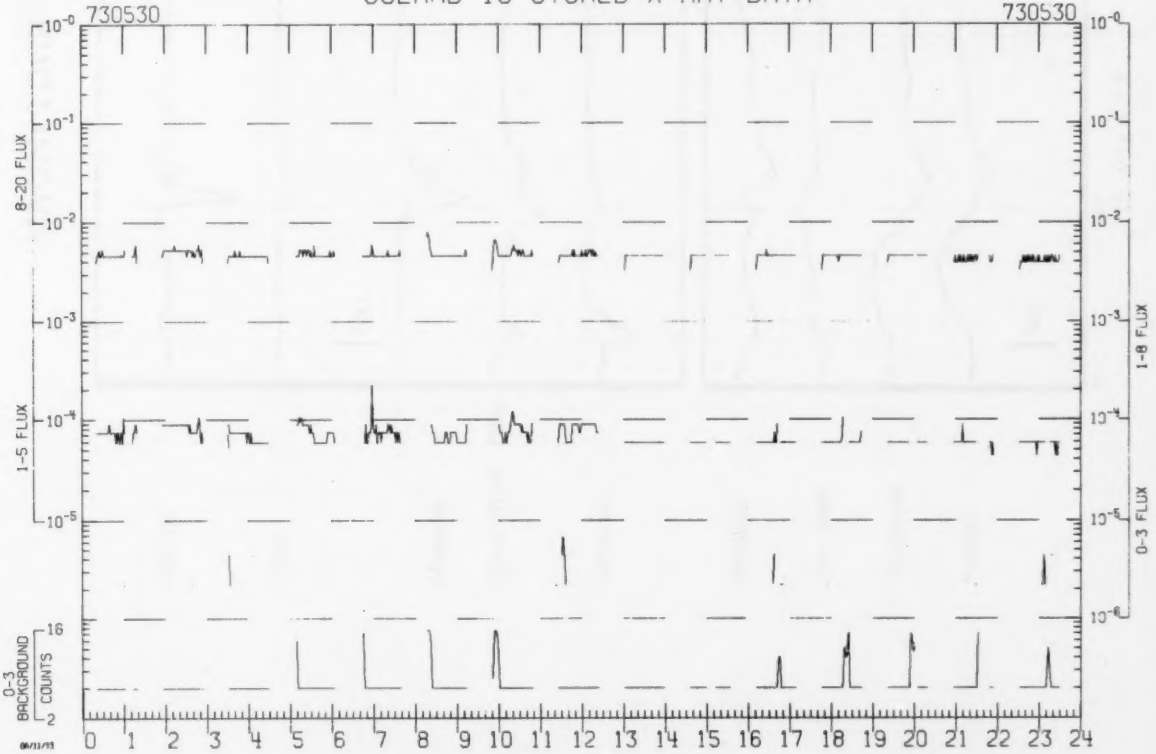

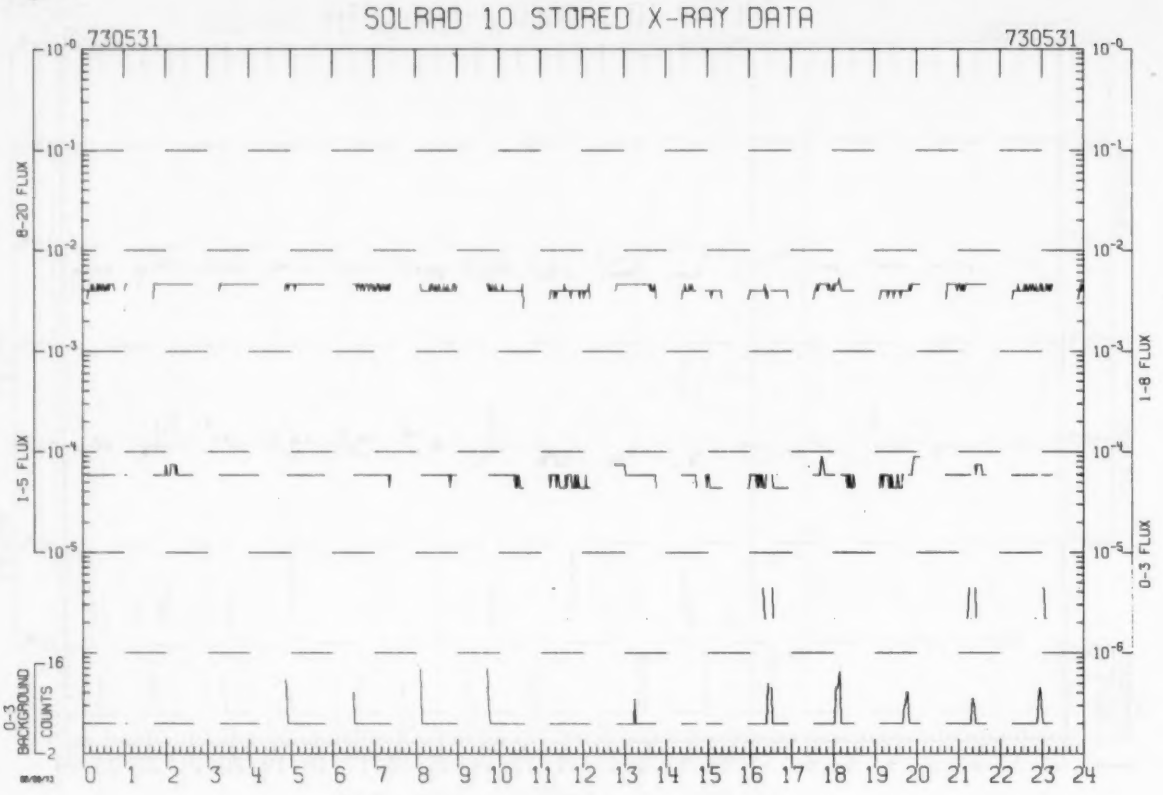
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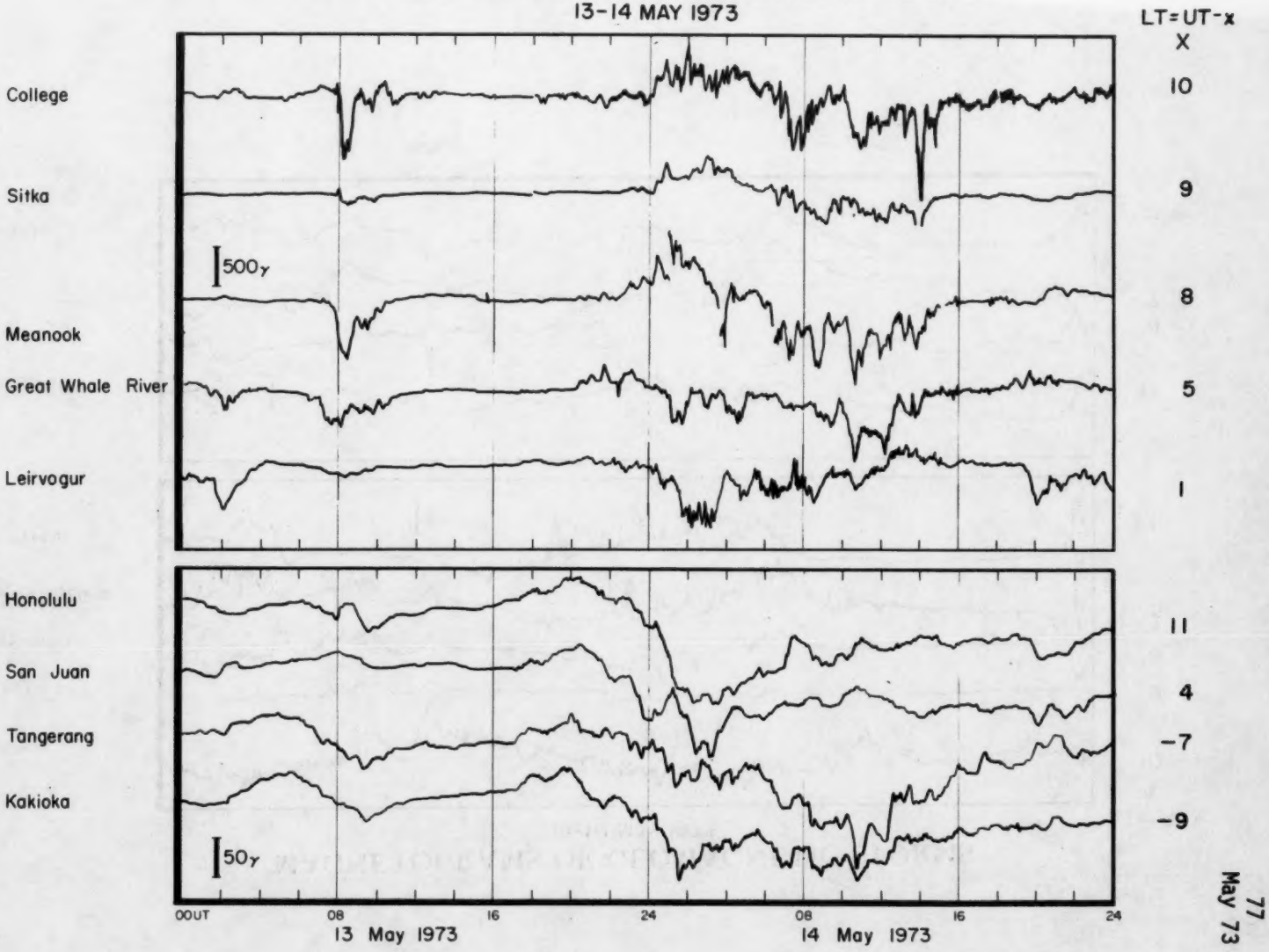
MAGNETOGRAMS OF GEOMAGNETIC STORMS

13-14 MAY 1973



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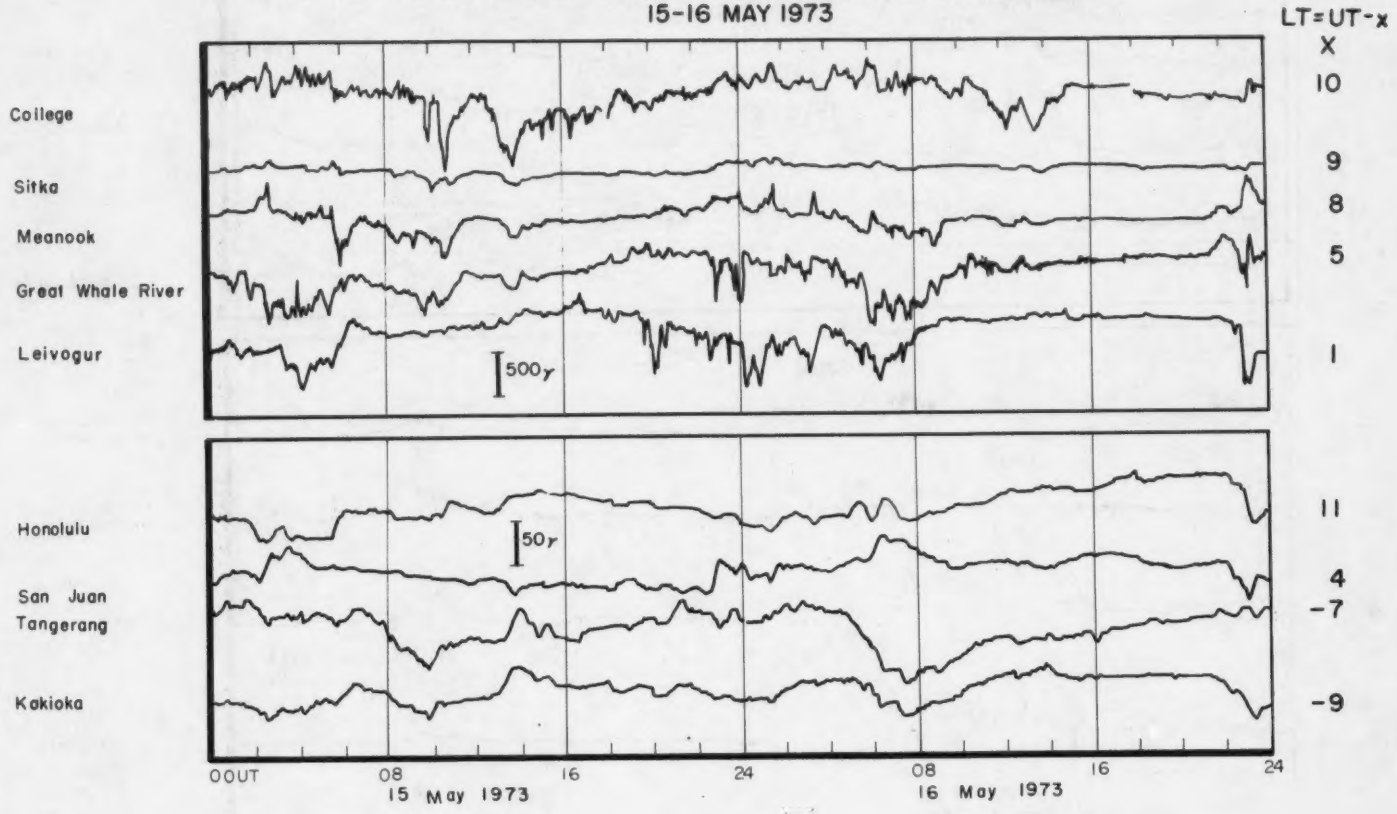
May 73

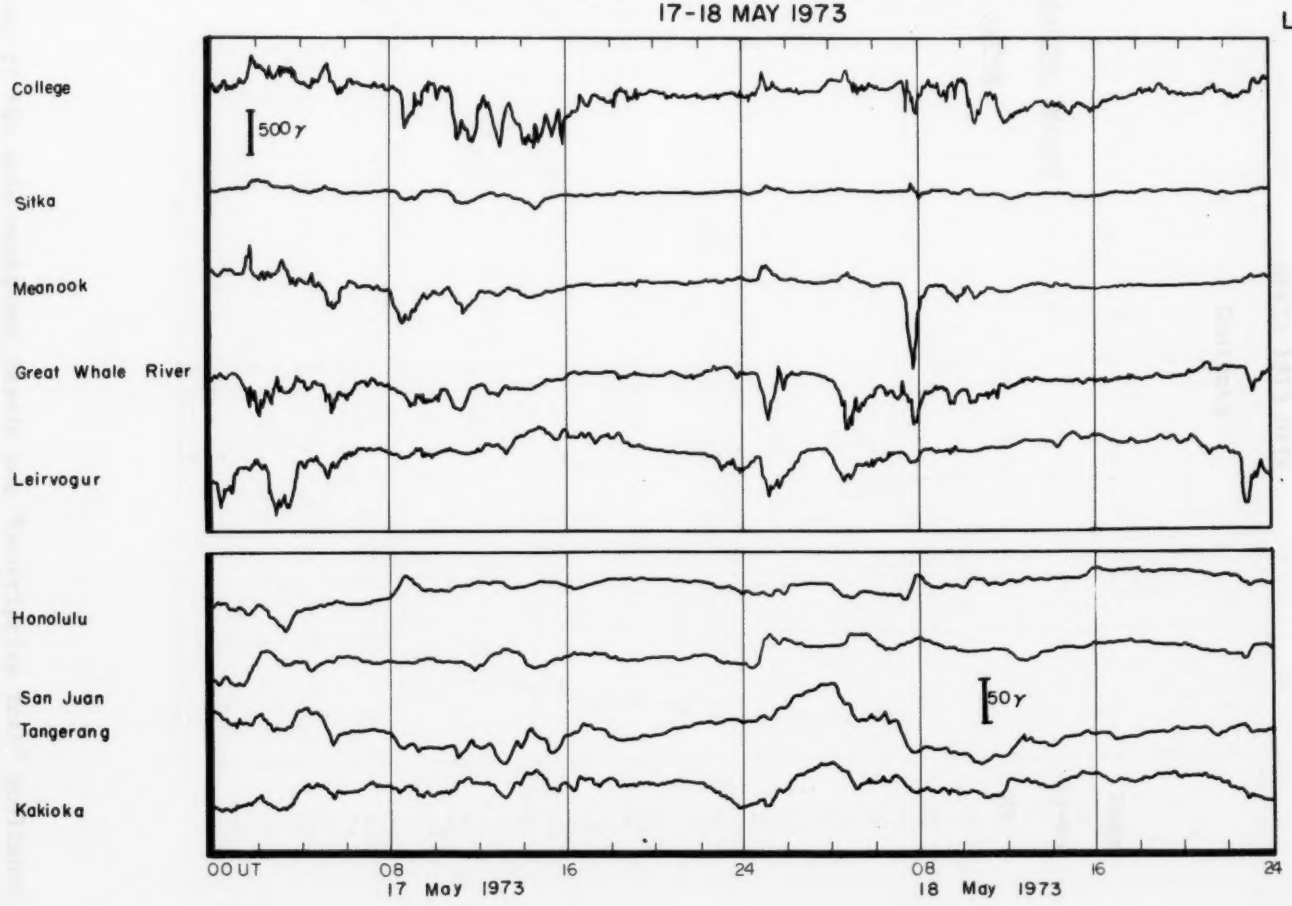
MAGNETOGRAMS OF GEOMAGNETIC STORMS

15-16 MAY 1973



MAGNETOGRAMS OF GEOMAGNETIC STORMS

17-18 MAY 1973



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May 73

APRIL 1973 DATA

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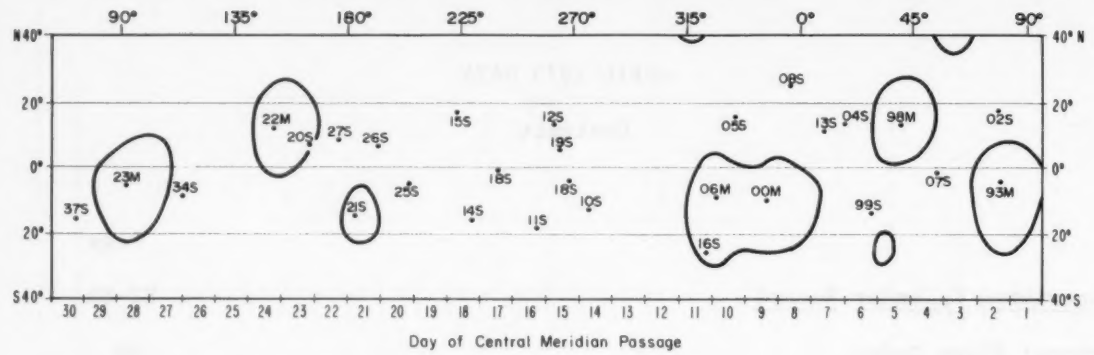
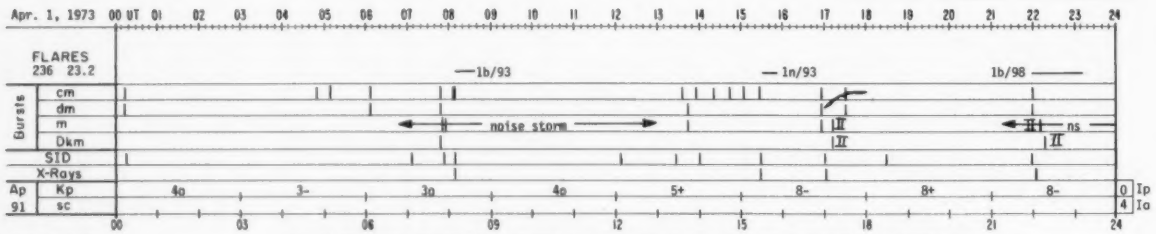
For explanations of the data contained herein see "Descriptive Text" published as supplement to February 1973 "Solar-Geophysical Data" (Number 342).

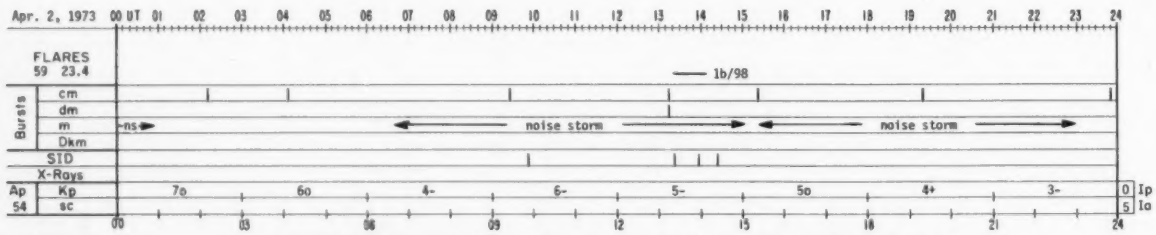
ABBREVIATED CALENDAR RECORD





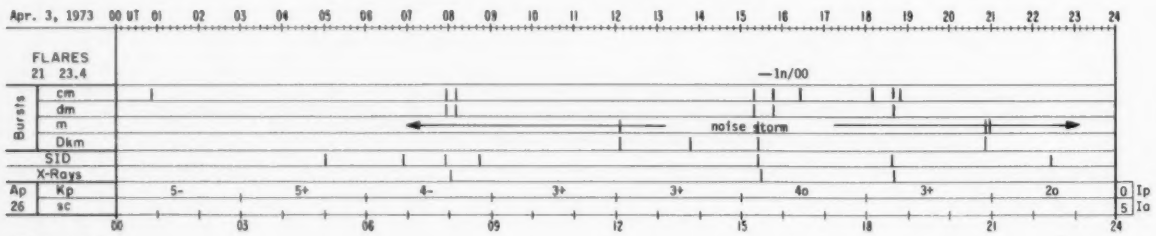
115 10 cm flux
65 Rz

One of five most magnetically disturbed days with severe storm from 1500; auroral glow visible over W. Europe at ϕ = 58° 0240, active display continuing throughout hours of darkness with coronal rays overhead from Scandinavia to W. Atlantic at ϕ = 59°, over British Isles the most southernly extention of aurora visible to ϕ = 54° 2100-2300 with red coloration reported around 2200; no coronal data 7 days earlier on E. limb, nor 7 days later on W. limb.

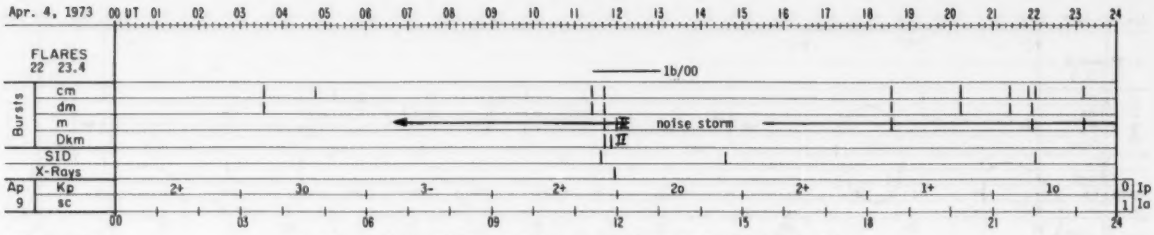


118 10 cm flux
79 Rz
CMP 12293 S04 19138 S05 (δ)
(12302) N18

One of five most magnetically disturbed days with moderately severe storm continuing to 0600 and moderate activity 0600-2100; active auroral display continuing throughout hours of darkness with coronal rays overhead at ϕ = 59° from Scandinavia to W. Atlantic, auroral glow visible over British Isles at ϕ = 58° 1915-2330; moderately br. green corona 7 days later on W. limb

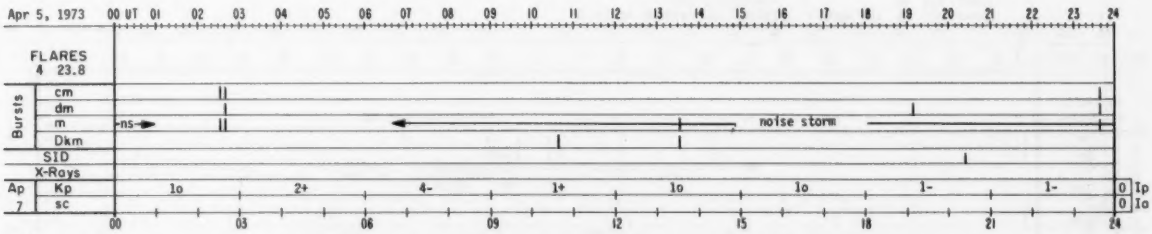


129 10 cm flux
93 Rz



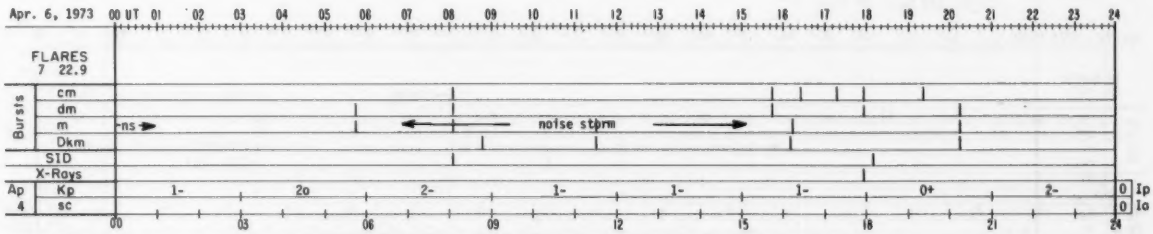
122 10 cm flux
93 Rz
CMP (12307) S02

One of ten most magnetically quiet days; no coronal data 7 days later on W. limb.



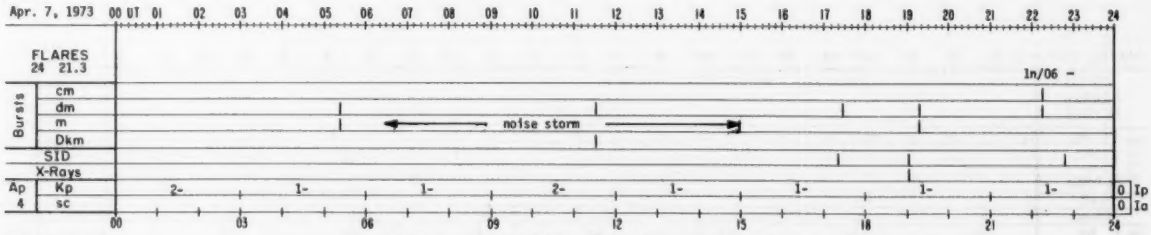
118 10 cm flux
75 Rz
CMP 12298 N13 (1&3) 19139 N11 (δ)

One of five most magnetically quiet days; moderately br. green corona 7 days earlier on NE limb and 7 days later on NW limb.



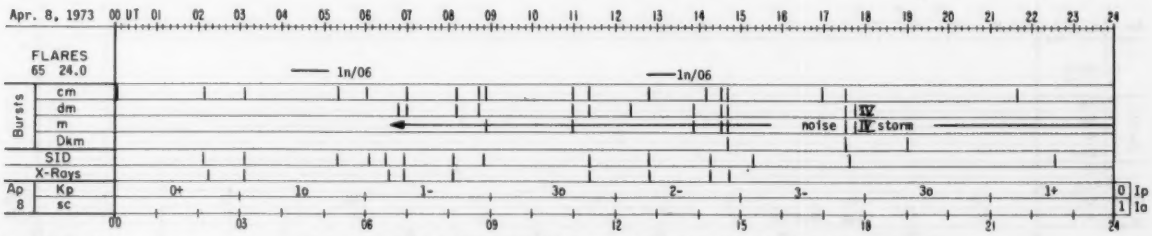
112 10 cm flux
75 Rz
CMP 12299 S14 (19142) S13 α

One of five most magnetically quiet days; no cornal data 7 days earlier on E. limb, very br. green corona 7 days later on NW limb.



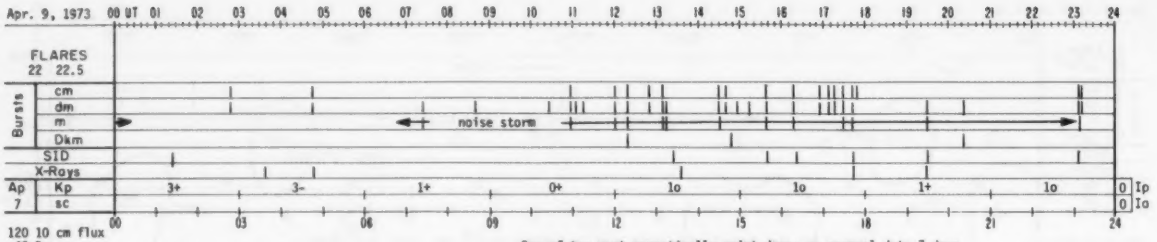
110 10 cm flux
76 Rz
CMP 12304 N14 (3) 19147 N15 (αf)1 CMP April 6
(12313) N12 (19154) N11 (αp)1

One of five most magnetically quiet days; no coronal data 7 days earlier on E. limb, nor 7 days later on W. limb.



121 10 cm flux
71 Rz
CMP (12308) N25

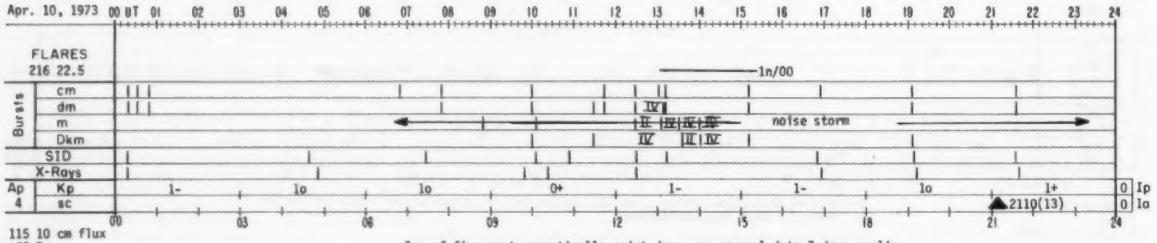
One of ten most magnetically quiet days, no coronal data 7 days later on W. limb.



120 10 cm flux
68 Rz
CMP 12300 S10 (2)

19143 S09 (αp) CMP April 8
(19144) S16 α CMP April 8
19145 S13 αp
19148 S07 βp CMP April 8
19149 S10 αf
(19152) S17 (β)2
(19153) S11 (β)2 CMP April 10

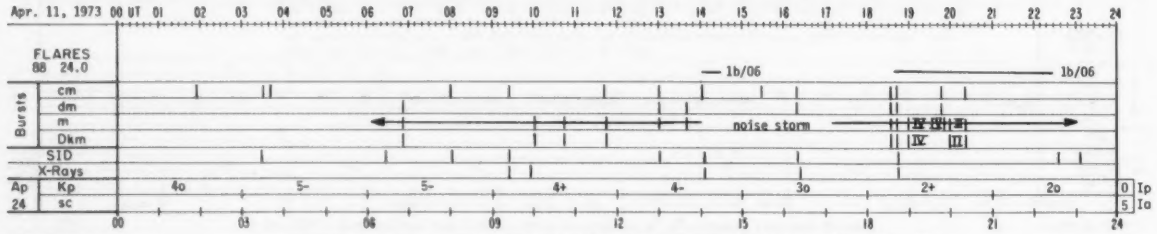
One of ten most magnetically quiet days; no coronal data 7 days earlier on E limb, nor 7 days later on W. limb.



115 10 cm flux
65 Rz
CMP 12305 N16 (2)
12306 S09

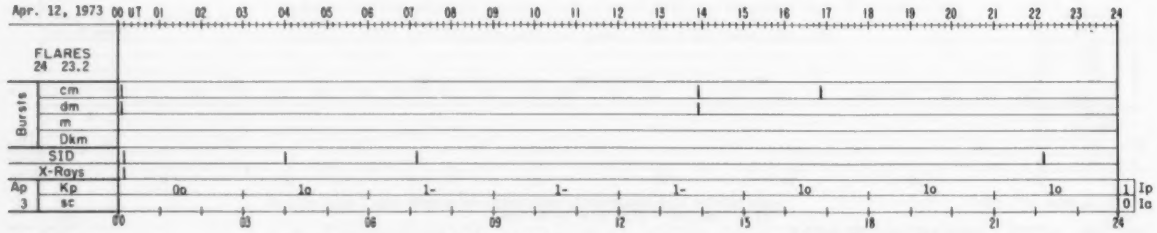
(19150) N15 (αp)1 CMP April 9
19151 S09 (βγ)5
(19155) S13 (αp)1 CMP April 11

One of five most magnetically quiet days; no coronal data 7 days earlier on E. limb, moderately br. green corona 7 days later on SW limb.



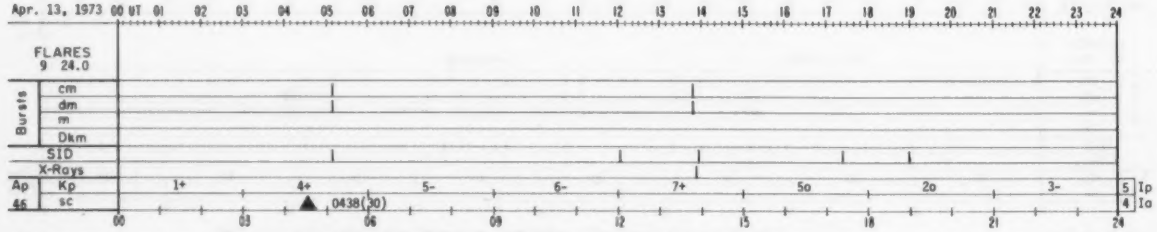
110 10 cm flux
62 Rz
CMP (12316) S26

Moderately br. green corona 7 days earlier on SE limb, no coronal data 7 days later on W. limb.



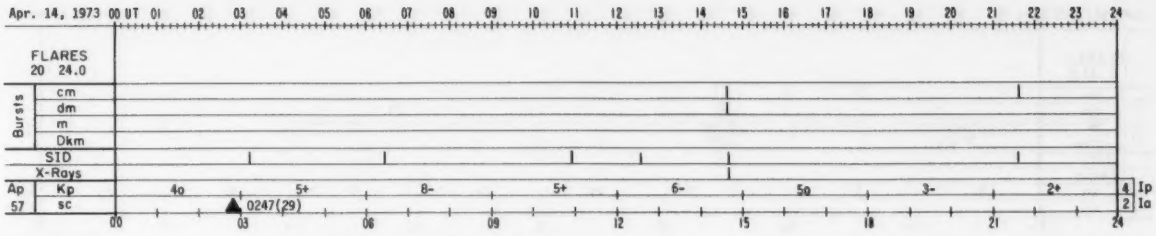
103 10 cm flux
46 Rz

One of five most magnetically quiet days; cosmic ray decrease of about 5% begins late in day, reaches a maximum on April 15 and returns to normal April 17; no coronal data 7 days earlier on E. limb, moderately br. green corona 7 days later on SW limb.



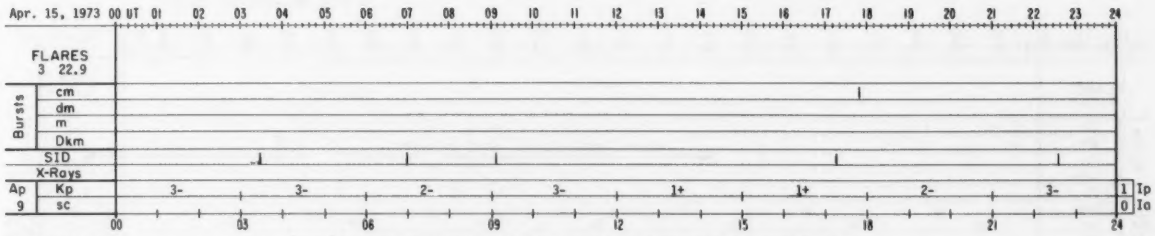
99 10 cm flux
41 Rz

No coronal data 7 days later on W. limb.



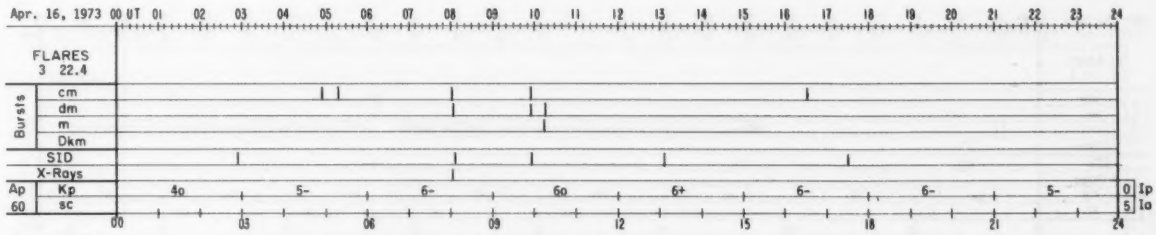
92 10 cm flux
37 Rz
CMP (12310) S13

No coronal data 7 days later on W. limb.



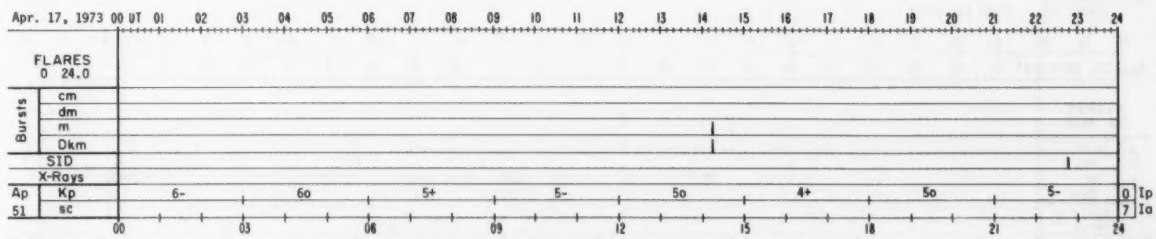
89 10 cm flux
35 Rz
CMP 12317 S04
(12319) N05
(12312) N14

One of ten most magnetically quiet days, cosmic ray decrease which began April 12 reaches a maximum near middle of day; no coronal data 7 days earlier on E. limb, nor 7 days later on W. limb.



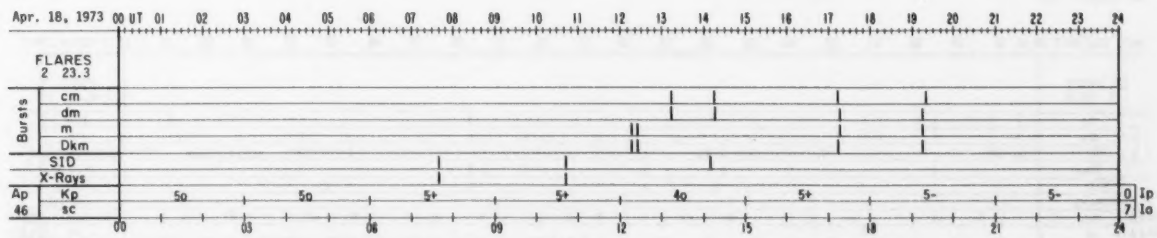
84 10 cm flux
29 Rz
CMP 12311 S18

One of five most magnetically disturbed days with moderate to moderately severe storm all day.



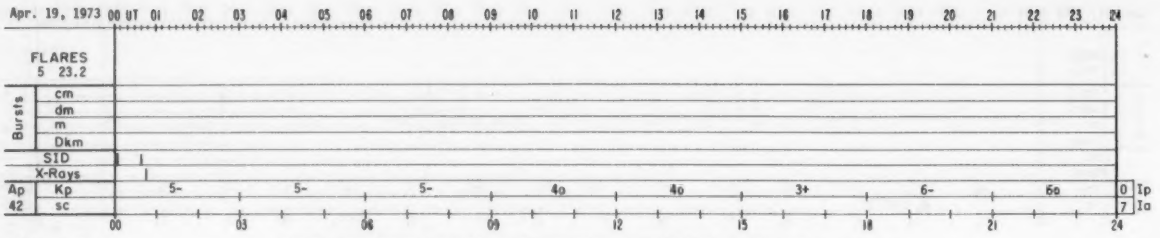
81 10 cm flux
16 Rz
CMP 12318 S01 19156 N01 α

One of five most magnetically disturbed days with moderate to moderately severe storm continuing all day.



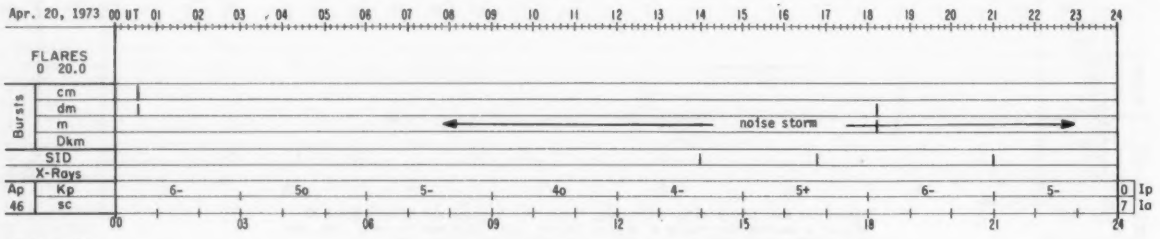
80 10 cm flux
15 Rz
CMP 12314 S16
12315 N17 (3) N16

No coronal data 7 days earlier on E. limb.

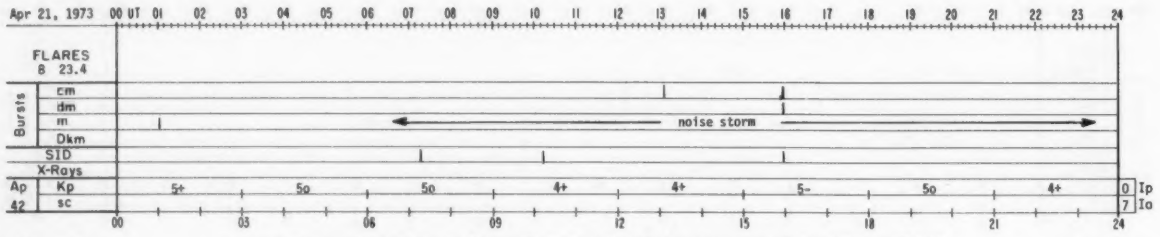


82 10 cm flux
32 Rz

Rayed auroral forms overhead over W. Europe at ϕ = 63°-64° and visible over W. Atlantic at ϕ = 58° 0100 and 0200 and as homogeneous band 0500; no coronal data 7 days later on W. limb.

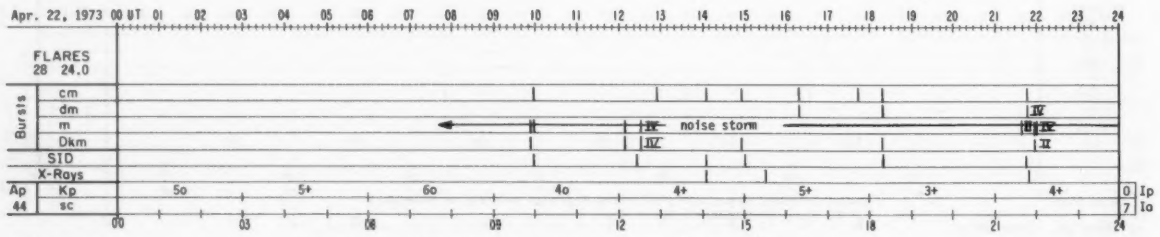


86 10 cm flux
42 Rz
CMP (12325) S05
(12324) N54



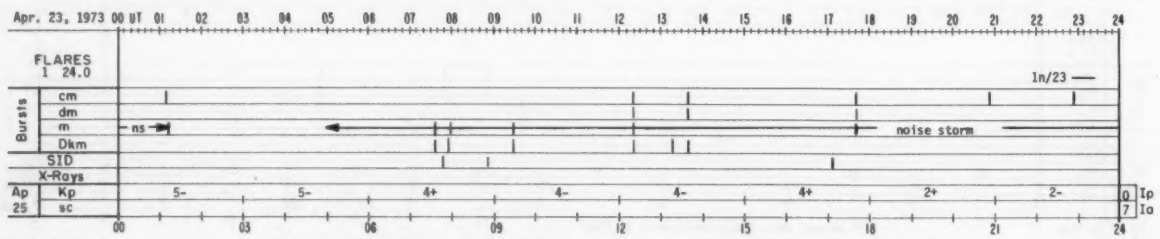
94 10 cm flux
45 Rz
CMP (12326) N06
12321 S15 19157 S15 (βf)3

No coronal data 7 days earlier on E. limb, moderately br. green corona 7 days later on SW limb.



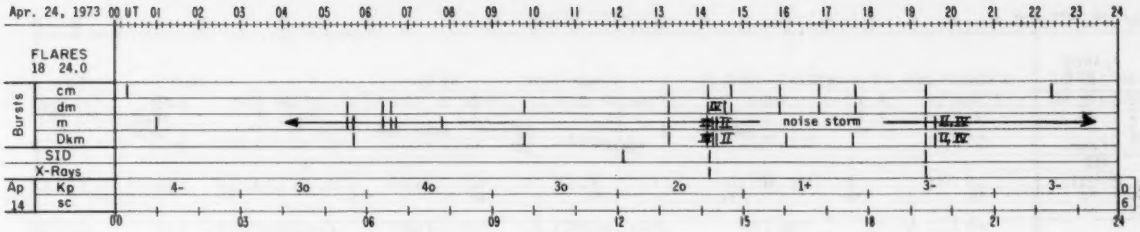
104 10 cm flux
67 Rz
CMP (12327) N08

No coronal data 7 days earlier on E. limb, nor 7 days later on W. limb.



108 10 cm flux
72 Rz
CMP (12320) N06

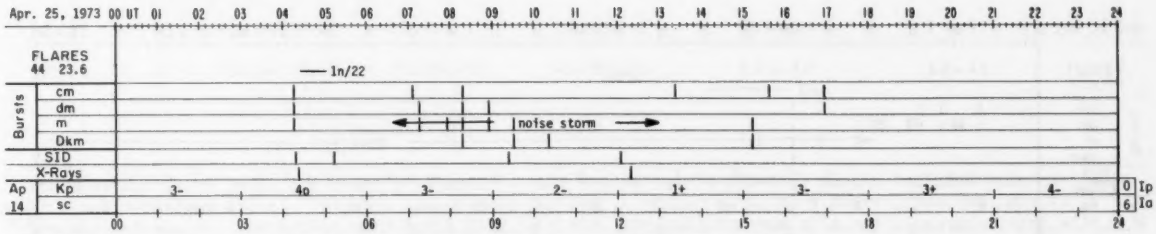
No coronal data 7 days earlier on E. limb, moderately br. green corona 7 days later on NW limb.



108 10 cm flux
73 Rz
CMP 12322 N12 (3)

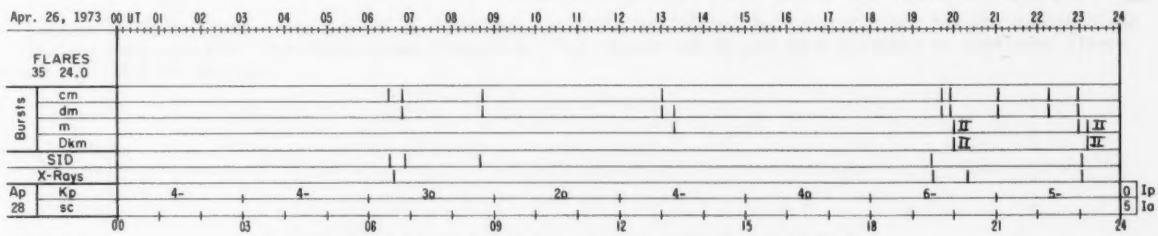
19158 N12 (βγ)4
19159 N10 (αp)4
(19163) N15 (βp)2 CMP April 23

No coronal data 7 days later at 220°-360° on W. limb.



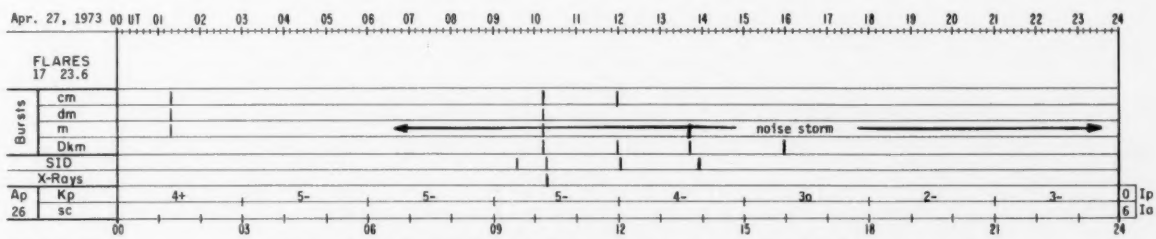
108 10 cm flux
67 Rz

One of ten most magnetically quiet days; no coronal data 7 days earlier on E. limb, nor 7 days later on W. limb.



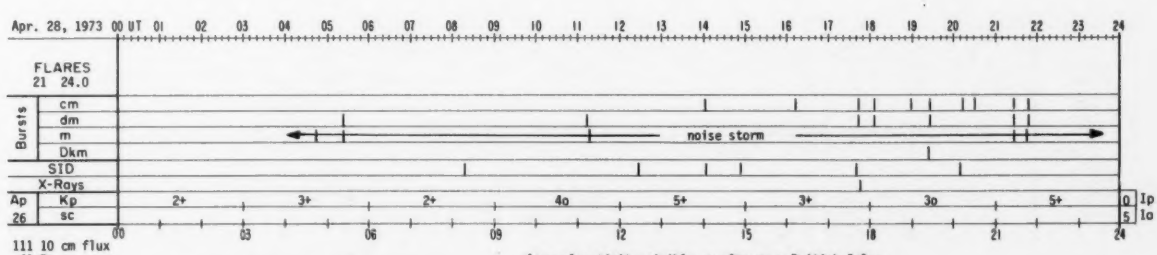
109 10 cm flux
67 Rz

Auroral glow visible over British Isles at ϕ = 56° 2050-2130 with rays 2050-2107.



110 10 cm flux
67 Rz
CMP (12334) S09

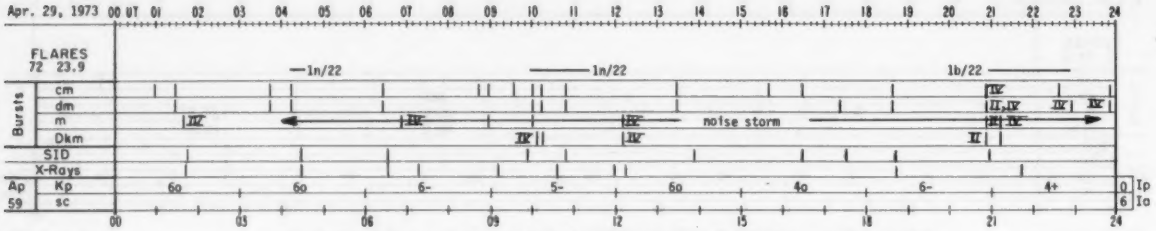
No coronal data 7 days earlier on E. limb, nor 7 days later at 280°-360° on W. limb.



111 10 cm flux
60 Rz
CMP 12323 S06 (2)

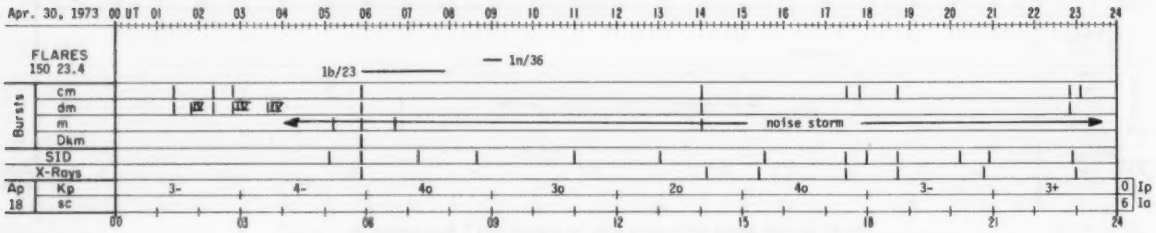
19160 S06 (γ)4
19161 S09 (α)3
19162 S02 (β)4
(19164) N00 αp
19165 S12 (βf)3
(19166) S05 β CMP April 29

Auroral activity visible as glow over British Isles at ϕ = 58° 2030-0200; no coronal data 7 days earlier on E. limb.



108 10 cm flux
54 Rz

One of five most magnetically disturbed days with moderate to moderately severe storm to 1500; auroral activity visible as glow over British Isles at ϕ = 58° 0000-0200 and with rays visible 0500, auroral arc visible overhead at ϕ = 66°, visible as glow over British Isles at ϕ = 58° 2250-0100; no coronal data 7 days earlier on E. limb, very br. green corona 7 days later on SW limb and br. green corona 7 days later on NW limb.



105 10 cm flux
42 Rz
CMP (12337) S16

Auroral arc visible overhead at ϕ = 66°, visible as glow over British Isles at ϕ = 58° 0000-0100.

Note: The reports of overhead aurora for the USSR were not received in time for publication.

REGIONAL FLARE INDEX

APRIL 1973

MC MATH PLAGE NO.	LAT	CMP DATE	DATE FIRST FLARE	DATE LAST FLARE	FLARE-INDEX SUM	FLARE-INDEX MEAN	TOTAL NO. OF FLARES
12293	S 4	73/04/02.3	73/03/28	73/04/08	147.88	12.32	15
12298	N13	73/04/05.4	73/03/30	73/04/05	179.25	25.61	8
12300	S10	73/04/09.1	73/04/03	73/04/10	182.75	22.84	4
12306	S10	73/04/10.9	73/04/07	73/04/16	310.21	31.02	30
12321	S15	73/04/21.7	73/04/24	73/04/24	0.28	0.28	1
12322	N11	73/04/24.2	73/04/17	73/05/01	224.68	14.98	28
12323	S 6	73/04/28.7	73/04/22	73/05/05	168.06	12.00	13

Note:
The Regional Flare Index and count of flares in each region has in previous months included each maximum of a multi-maximum event. This has caused some regions to appear to be more flare producing than is probably warranted. Beginning with April 1972 only the principal maximum of a multi-maximum event will be used in the calculation. Also note that only the Confirmed Events as selected for the "I.A.U. Quarterly Bulletin on Solar Activity" are included in the calculation.

Because of differences in method of calculation, the dates of Central Meridian Passage for the McMath Plage Regions vary somewhat from those given elsewhere. Any region not listed here produced no confirmed flares during its disk passage.

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(Prepared by World Data Center A for Solar-Terrestrial Physics, NOAA, Boulder, Colorado)

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UAG-21 "Preliminary Compilation of Data for Retrospective World Interval July 26 - August 14, 1972", compiled by J. Virginia Lincoln and Hope I. Leighton, World Data Center A for Solar-Terrestrial Physics, November 1972, 128 pages, price 70 cents.

UAG-22 "Auroral Electrojet Magnetic Activity indices (AE) for 1970", by Joe Haskell Allen, National Geophysical and Solar-Terrestrial Data Center, Environmental Data Service, November 1972, 146 pages, price 75 cents.

UAG-23 "U.R.S.I. Handbook of Ionogram Interpretation and Reduction", Second Edition, November 1972, edited by W. R. Piggott, Radio and Space Research Station, Slough, U.K., and K. Rawer, Arbeitsgruppe für Physikalische Weltraumforschung, Freiburg, G.F.R., November 1972, 324 pages, price $1.75.

UAG-24 "Data on Solar-Geophysical Activity Associated with the Major Ground Level Cosmic Ray Events of 24 January and 1 September 1971", Parts 1 and 2, compiled by Helen E. Coffey and J. Virginia Lincoln, World Data Center A for Solar-Terrestrial Physics, December 1972, 462 pages, price (includes Parts 1 and 2) $2.00.

UAG-25 "Observations of Jupiter's Sporadic Radio Emission in the Range 7.6-41 MHz, 9 September 1968 through 9 December 1971", by James W. Warwick, George A. Dulk and David G. Swann, Department of Astro-Geophysics, University of Colorado, February 1973, 35 pages, price 35 cents.

UAG-26 "Data Compilation for the Magnetospherically quiet Periods February 19-23 and November 29 - December 3, 1970", compiled by Helen E. Coffey and J. Virginia Lincoln, World Data Center A for Solar-Terrestrial Physics, May 1973, 129 pages, price 70 cents.

UAG-27 "High Speed Streams in the Solar Wind", by D. S. Intriligator, University of Southern California, Department of Physics, Los Angeles, California, 90007, June 1973, 16 pages, price 15 cents.

UAG-28 "Collected Data Reports on August 1972 Solar-Terrestrial Events", Parts 1, 2 and 3, edited by Helen E. Coffey, World Data Center A for Solar-Terrestrial Physics, July 1973, 932 pages, price (includes Parts 1-3) $4.50.

UAG-29 "Auroral Electrojet Magnetic Activity Indices AE (11) for 1968", by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Environmental Data Service, October 1973, 148 pages.

UAG-30 "Catalog of Data on Solar-Terrestrial Physics", prepared by Environmental Data Service, NOAA, Boulder, Colorado, October 1973, 317 pages.

UAG-31 "Auroral Electrojet Magnetic Activity Indices AE (11) for 1969", by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Environmental Data Service, November 1973, 138 pages.

USCOMM-NOAA-ASHEVILLE,NC-11-30-73-1125